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Major Thoroughfare Plan Final Report

NEEL-SCHAFFER, INC.
Engineers • Planners

CITY OF GALLATIN AND THE NASHVILLE AREA MPO

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GALLATIN MAJOR THOROUGHFARE PLAN

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1.0 INTRODUCTION

1.1 Study Purpose

This document summarizes the analysis and results obtained by Neel-Schaffer during the completion of the City of Gallatin's Major Thoroughfare Plan (MTP). A Major Thoroughfare Plan plays a vital role in the transportation planning process. As a part of the study, a growth analysis was performed to determine the type and extent of development that is expected to occur over a 20-year period. These results help identify possible deficiencies in the City's transportation network. Based on historical and anticipated future growth, the study guides city and regional officials through their decision-making processes. Ultimately, elected officials and planning staffs use the MTP as a tool to make informed decisions on infrastructure improvements. By coordinating planned development and transportation improvements, Gallatin officials can strategically implement transportation investments to accommodate existing and future development.

The MTP attempts to balance the transportation needs of the public by maintaining an acceptable quality of life, while providing well-planned economic growth opportunities. The analysis includes a socioeconomic and transportation analysis starting at a base year and extending to a future design year. The base year for this study was determined to be 1996; while, the future year will be 2020. Based on these results, the report presents officials with recommended improvements to help satisfy the needs of the future. These recommendations may include roadway improvements, safety improvements, environmental considerations, multi-modal alternatives, and travel demand management strategies. As part of the final conclusions, the report will present a prioritized list of projects and transportation initiatives, initial cost estimates and project development procedures. In short, the plan identifies existing and predicted future transportation deficiencies and provides complete, concise information on tasks to ensure a safe, mobile and efficient transportation system.

Many agencies played an important role throughout the preparation of the MTP, including the staffs of the Nashville Area Metropolitan Planning Organization, the Tennessee Department of Transportation and the City of Gallatin's Public Works Department. These groups provided pertinent information and direction throughout the MTP's preparation. Also, the consulting firms of Tocknell & Associates and Gallop Corporation contributed to the completion of this report.

1.2 Study Goals

The primary function of this report is to provide the City of Gallatin and the Nashville Area Metropolitan Planning Organization with a complete and dynamic Major Thoroughfare Plan. A series of goals have been established to help attain this. To maintain consistency between the Major Thoroughfare Plans prepared for other member jurisdictions within the MPO, the following goals closely follow those of other plans:

- Provide a safe, efficient and multi-modal transportation system.
- Integrate the City of Gallatin's anticipated transportation needs with regional transportation goals.
- Ensure the compatibility and functionality between the future land use plan and any recommended future transportation projects.
- Encourage use of bicycle, pedestrian, and ride-sharing facilities.
- Encourage economic development through the planning and implementation of a transportation system that will support the City's planned commercial, industrial, and residential development.
- Provide the City with a document that will assist local and regional officials with the transportation planning process.

1.3 Study Objectives

The following objectives provide specific guidelines through which the study goals may be achieved.

- Thoroughly investigate the existing transportation system for capacity, safety and other deficiencies.
- Consider other regional transportation documents to ensure the consistency between multiple planning documents (i.e. Vietnam Veterans Boulevard Extension APR, Gallatin's North-South Emergency Route and East-West Corridor Studies, City of Gallatin's Urban Growth Boundary Plan (1999), Gallatin's Bicycle and Pedestrian Plan, Nashville Area Transportation Improvement Program, Regional Transit Authority Park and Ride Lot Study, and the Nashville Area Long-Range Transportation Plan).
- Maintain a balanced relationship between Gallatin's land use plan and future recommended transportation improvements.
- Encourage and recommend installation of pedestrian and bicycle facilities, where appropriate.
- Provide guidelines to maintain consistency between transportation facilities and its classification (for example, an urban collector will be assigned a recommended cross-section and right-of-way width).
- Include preliminary cost estimates and a prioritized listing of the recommended projects to assist in the programming procedure.

2.0 EXISTING CONDITIONS

2.1 Study Area Boundary

The boundaries that define the study area for the Major Thoroughfare Plan are shown in Figure 2.1. In general, the study area includes an area surrounding Gallatin's current city limits. Effort has been made to establish the study area to reflect Gallatin's anticipated urban growth boundary. State legislation passed in 1998, (Public Law 1101) requires most cities to set boundaries on urban development. However, the study area only estimates the location of the growth boundary, as the boundary locations may be modified in the future. The specific limits of the study area were determined by subdividing the current traffic analysis zone boundaries

2.2 Traffic Analysis Zones

The forecasting of future transportation needs involves the use of a demand model that predicts the flow of vehicles and people within the entire Nashville Area MPO region. As a part of the regional model, the Gallatin area comprises a small part of the entire region. The region, as a whole, is comprised of individual sub-areas called traffic analysis zones (TAZ). These TAZs describe the land use of each sub-area based on various census data. The model provides a tool by which the flow of people, and therefore vehicles, may be evaluated based on their respective land uses as they move from one area of the city to another (i.e. TAZ). For example, a TAZ with a large employment number would be a strong attractor for TAZs with high labor force numbers. Therefore, the regional model estimates the total draw from TAZ to TAZ based on these attractions. The cumulative effects by these attractions between TAZs create the demand experienced on the transportation system. And this is the primary goal of the study: to evaluate the effects of current and estimated future demand on the current transportation system and make recommendations to alleviate anticipated problems, while maintaining economic success and a satisfactory quality of life.

The Nashville MPO regional model has 7 large TAZs that are within the Gallatin study area. To provide the level of detail necessary, an independent consultant for the City of Gallatin, with the assistance of the MPO staff, divided these seven TAZs into smaller areas. The final layout contains a total of 25 TAZs. Many of these 25 areas are totally within the original TAZ structure, but a few are only partial areas of the original seven. In all cases, the census information was accordingly broken into their respective smaller TAZs. Figure 2.2 illustrates the TAZ boundaries within the study area. Additional information relating the TAZs with their respective socioeconomic data may be found in Sections 3 and 5 of this report.

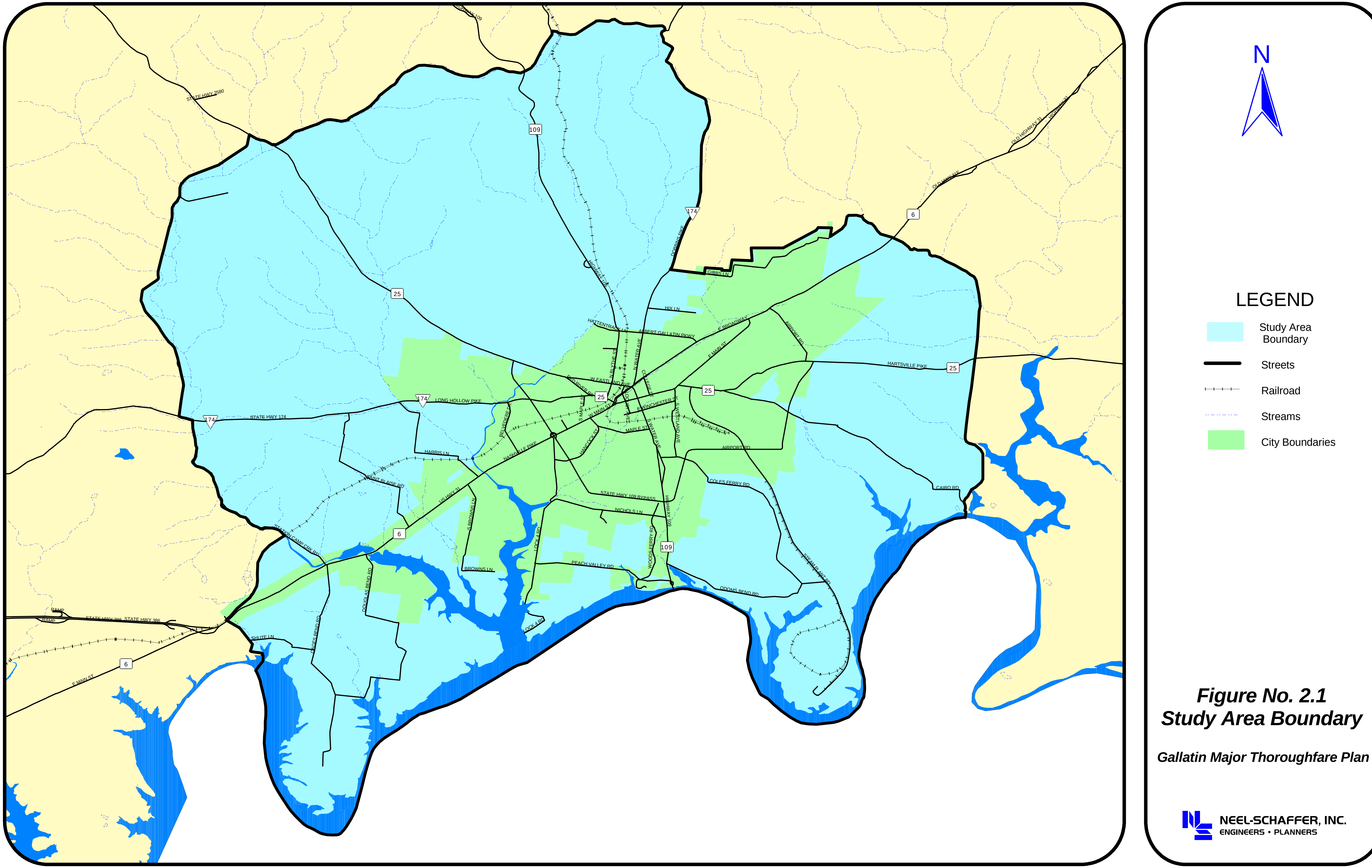
N
LEGEND
Study Area Boundary
Streets
Railroad
Streams
City Boundaries
STATE HWY 2580
HIGHWAY 109
109
174
DOBBINS PIKE
6
OLD HWY 31E
OLD HIGHWAY 31
HIGHWAY 31
GIBBS LN
HIX LN
25
HATTENTRACK LN
ALBERT GALLATIN PKWY
E BROADWAY
E MAIN ST
AIRPORT RD
HARTSVILLE PIKE
N BLYTHE ST
N WATER AVE
COLLEGE ST
W EASTLAND AVE
RED RIVER RD
LONG HOLLOW PIKE
STATE HWY 174
S MAPLE ST
W MAIN ST
LOCUST AVE
E WINCHESTER ST
S WESTLAND AVE
MAPLE ST
S WATER AVE
HANCOCK ST
BELVEDERE DR
HARRIS LN
NASHVILLE PIKE
SAINT BLAISE RD
US HWY 31
STATION CAMP CRK RD
S BROWNS LN
STATE HWY 109 BYPASS
NICHOLS LN
HIGHWAY 109
COLES FERRY RD
CAIRO RD
LOCK 4 RD
WOODS FERRY RD
PEACH VALLEY RD
BROWNS LN
ODOMS BEND RD
STEAM PLANT RD
DOUGLAS BEND RD
CAGES BEND RD
SHUTE LN
RAMP
STATE HWY 386
E MAIN ST

Figure No. 2.1
Study Area Boundary

Gallatin Major Thoroughfare Plan

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N

LEGEND

- Traffic Analysis Zones
- 256 TAZ Number
- Streets
- Railroad
- Streams
- City Boundaries

Figure No. 2.2
Traffic Analysis Zones

Gallatin Major Thoroughfare Plan

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3.0 LAND USE

3.1 Introduction

The correlation between land use and transportation demand directly affects the regional transportation model's traffic forecasts. Specifically, the type and intensity of land use governs the amount of trip productions and attractions within each traffic analysis zone. For example, a residential area would produce fewer trips per day than a heavy commercial area. Also, a low-density residential area with single-family homes will generate different person-trips than a high-density apartment development. The movement of these person-trips between the TAZs equates to the demand placed on the transportation system. The regional model expresses this demand as estimated daily traffic on the transportation network.

3.2 Existing Land Use Characteristics

A survey of the existing land use characteristics showed a mix of commercial, industrial, institutional and residential developments throughout the area. Figure 3.1 shows Gallatin's future land use plan. Industrial development is currently found in the east and southeast sections of the study area. Airport Road and Steam Plant Road provide access into this industrial area. Also, the majority of the retail/commercial land uses are generally found along the major arterial routes (Nashville Pike, Water Street, Main Street and Broadway). Medium to high-density residential areas are located throughout the Gallatin area. These higher density residential areas are particularly concentrated surrounding the central business district. They can also be found in pockets adjacent to South Water Street/ State Route 109 and State Route 6 (US 31E, Nashville Pike). The higher density residential areas quickly give way to low-density residential areas away from the downtown area. The land use plan also includes the formation of mixed-use development practices.

The transportation demand model used by the Nashville Area MPO utilizes socioeconomic data as its inputs describing land use. The transportation model uses these statistics to estimate trip generation rates for each TAZ. These variables include household population, number of households, labor force, employment and number of vehicles. For the base year conditions, the values are estimated based on the existing businesses and households located within each traffic analysis zone. These values have been tabulated for each study TAZ and are reported in Table 3.1. Figures 3.2, 3.3 and 3.4 graphically show the 1996 amount of population, labor force and employment figures, respectively, for each TAZ. This data will be used to forecast the socioeconomic data by TAZ for the design year (2020).

LEGEND

- RURAL RESIDENTIAL PRESERVATION
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- MIXED USE
- COMMERCIAL
- PLANNED BUSINESS
- INDUSTRIAL
- PUBLIC/SEMI-PUBLIC
- DOWNTOWN REDEVELOPMENT AREA

N

1200 600 0 600 1200 2400

SCALE: 1" = 1200'

LAND USE NOTES

1. MIXED USE AREAS ALONG NASHVILLE PIKE PROVIDE FOR NON-RESIDENTIAL OFFICE DEVELOPMENT OR HIGHER DENSITY RESIDENTIAL. PRESERVES GATEWAY EFFECT BUT ALSO PROVIDES FOR REASONABLE USE OF PROPERTY. COMMERCIAL USES NOT PERMITTED.
2. FUTURE COMMERCIAL AREAS DESIGNATED TO SERVICE NEW HOUSEHOLDS AND FUTURE POPULATION BASE.
3. VIETNAM VETERANS EXTENSION CREATES NEW ACCESS AND DEVELOPMENT OPPORTUNITIES FOR LONG HOLLOW PIKE/ NASHVILLE PIKE GROWTH AREAS.
4. St. BLAISE ROAD AREA MAINTAINED AS RURAL/SUBURBAN RESIDENTIAL AREA. RURAL PRESERVATION WESTERN LIMITS MARKED BY EXISTING TREELINE.
5. PLANNED BUSINESS AREA PROVIDES NEW MASTER PLANNED EMPLOYMENT CENTERS FOR FUTURE EMPLOYMENT GROWTH.
6. SPECIFIC STRATEGIES FOR DOWNTOWN REDEVELOPMENT AND REVITALIZATION AREA TO BE DEVELOPED.
7. MIXED USE AREA PROVIDES FOR EXPANSION OF REGIONAL MEDICAL USES. ROAD NETWORKS, TRAFFIC ACCESS AND SENSITIVESITE PLANNING REQUIRED TO PROTECT RESIDENTIAL AREAS. ADAPTIVE REUSE OF BUILDINGS FRONTING HWY. 31 ENCOURAGED.
8. STEAM PLANT ROAD AND AIRPORT ROAD INDUSTRIAL AREAS MAINTAINED AS CENTRAL FOCUS OF CITY'S HEAVY MANUFACTURING BASE.
9. RURAL PRESERVATION AREAS MARK LIMITS OF SUBURBAN DEVELOPMENT GROWTH AREA. BOUNDRY LINES CORRESPOND TO MAJOR ROAD, CREEKS, DRAINAGE DIVIDES OR PROPOSED TRANSPORTATION ROUTES (I-840 EAST).
10. COMMERCIAL DEVELOPMENT AT THIS LOCATION TO BE DESIGNED TO BUFFER EXISTING RESIDENTIAL AREAS WITH LIMITED HIGHWAY ACCESS, LANDSCAPING, SCREENING, ARCHITECTUAL COMPATABLITY AND OTHER BULK/ DENSITY AND SITE DEVELOPMENT MEASURES.
11. RESIDENTIAL DENSITIES IN THIS AREA SHALL BE LIMITED TO THE LOW END OF THE "MEDIUM DENSITY RESIDENTIAL" LAND USE CLASSIFICATION.

City of Gallatin

General Development Plan

1996–2005

Future Land Use Map

Figure 3.1

Gallatin Major Thoroughfare Plan

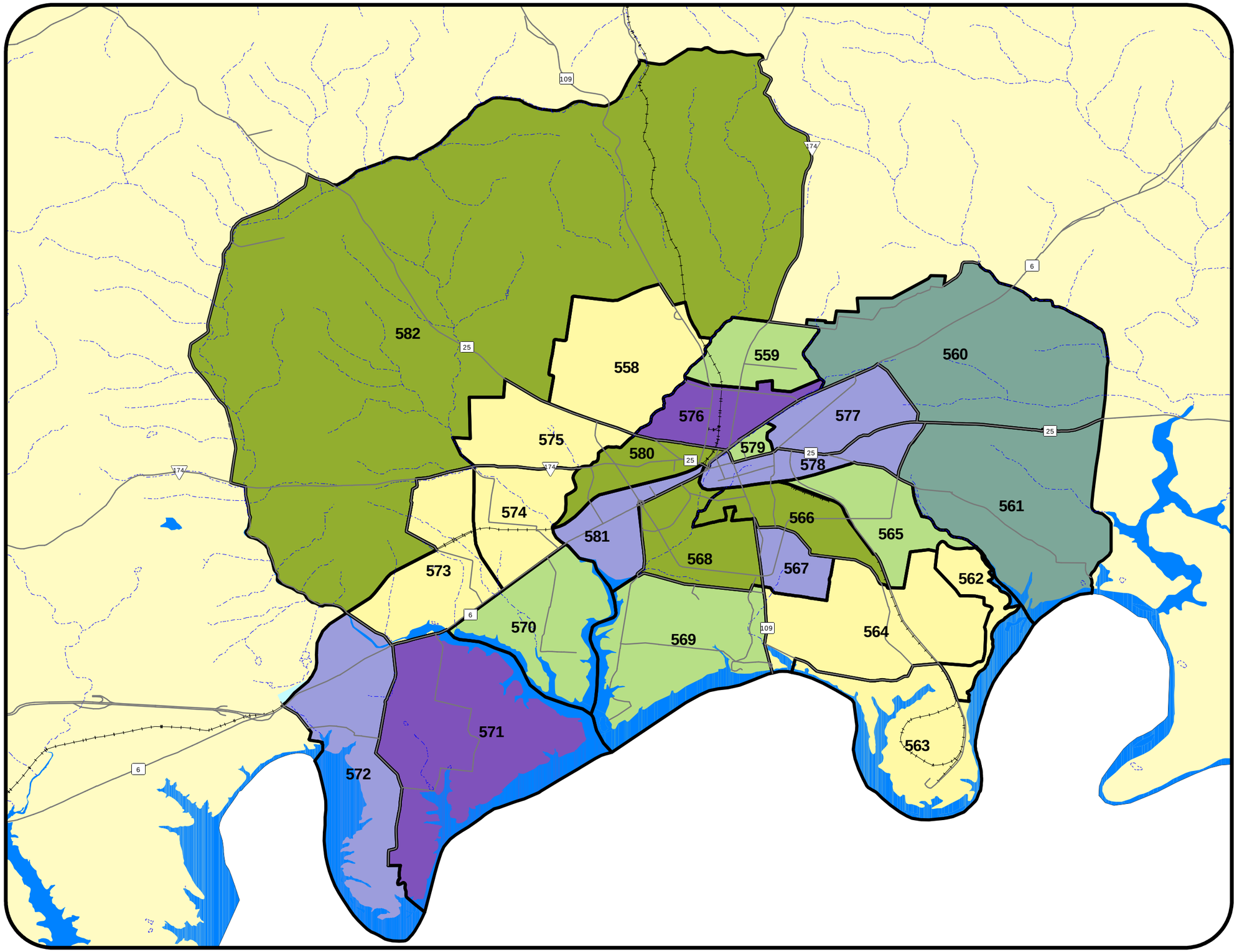
Source: City of Gallatin, 1999

TABLE 3.1

1996 SOCIOECONOMIC DATA
GALLATIN MAJOR THOROUGHFARE PLAN

Original TAZ Designation	Study TAZ Number		Household Population	Households	Total Labor Force	Employment	Number of Vehicles
402	558		39	16	21	10	35
405	559		628	222	260	110	323
412	560		1481	496	735	129	1097
412	561		1404	489	724	532	1082
407	562		125	50	61	25	94
407	563		124	47	57	625	88
407	564		350	129	156	292	243
407	565		554	210	254	725	395
407	566		2355	935	1133	1870	1760
404	567		1662	625	851	185	1163
404	568		2378	862	1174	827	1604
404	569		970	383	522	180	713
402	570		837	320	424	195	691
281	571		2934	973	1429	69	2191
281	572		1504	542	796	56	1221
402	573		293	112	148	200	242
402	574		314	120	159	668	259
402	575		16	6	8	50	13
405	576		3912	1382	1620	1595	2011
406	577		1623	656	656	391	947
406	578		1760	665	665	3674	960
406	579		733	445	445	608	643
405	580		2097	727	852	1125	1058
404	581		1986	778	1030	1585	1448
402	582		2426	851	1127	103	1838
TOTALS			**30,079**	**11,190**	**14,180**	**15,726**	**20,281**

Source: Tocknell & Associates, 1999



N

LEGEND

Household Population (People)

- 0 - 400
- 400 - 800
- 800 - 1200
- 1200 - 1600
- 1600 - 2000
- 2000 +
- Streets
- Railroad
- Streams

Figure No. 3.2
Summary of 1996 Household Population by TAZ

Gallatin Major Thoroughfare Plan

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LEGEND

Labor Force (People)

- 0 - 300
- 300 - 600
- 600 - 900
- 900 - 1200
- 1200 +
- Streets
- Railroad
- Streams

Figure No. 3.3
Summary of 1996 Labor Force by TAZ

Gallatin Major Thoroughfare Plan

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LEGEND

Employment (People)

- 0 - 200
- 200 - 400
- 400 - 600
- 600 - 800
- 800 +
- Streets
- Railroad
- Streams

Figure No. 3.4
Summary of 1996 Employment by TAZ

Gallatin Major Thoroughfare Plan

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4.0 EXISTING TRANSPORTATION SYSTEM NETWORK

4.1 Introduction

This section describes the procedure used to analyze the existing transportation network. An extensive field survey was conducted along much of the roadway network within the study area. After assembling and organizing the field data and the socioeconomic data, the information was forwarded to the consultant charged with assembling and running the regional model. After confirming the validity of the model's output, the existing transportation conditions result was evaluated using a standardized capacity analysis method.

4.2 Inventory of Existing Transportation System

An inventory of the existing transportation network for the City of Gallatin was developed through field surveys and document research. The most pertinent routes were investigated and categorized based on functional classification (Table 4.1). Also, Table 4.2 shows a detailed overview of each route included in the inventory. The roadway characteristics in the summary table include the number of lanes, approximate roadway widths, shoulder widths, and pavement markings (centerline/edgeline). No bicycle or high occupancy vehicle facilities were noted during the field survey. Currently, there is one park-and-ride lot located adjacent to Broadway on West Franklin Street behind Gallatin City Hall. Sidewalk facilities were found throughout the city, primarily along the major arterial routes. Table 4.3 lists the existing inventory of pedestrian facilities.

4.3 Historical and Existing Daily Traffic Volumes

The traffic volumes estimated by the transportation model for 1996 were validated against historical traffic counts obtained from the Tennessee Department of Transportation (TDOT). These existing ADT counts are included in TDOT's annual cycle count collection effort. A growth rate analysis performed on the counts shows average trends in the growth (or decline) of traffic on roadways over an extended period of time. The earliest available data for the route begins in 1982. A total of 52 cycle station locations were analyzed. Table 4.4 lists the average growth rate for each of the count stations.

The operational efficiency of Gallatin's existing transportation system was evaluated using the average daily traffic from TDOT's cycle counts and estimated volumes predicted by the transportation model. The volumes reported by the model offer estimates of true daily volumes. The usefulness of the model comes from its ability to generalize conditions. The volumes should not be considered exact traffic counts, but an average of a range of volumes that might be experienced in a typical day under ordinary circumstances. Although the model is not an exact predictor of volume demand, its capabilities are suitable for a 20-year Major Thoroughfare Plan horizon. Figure 4.1 shows the 1996 traffic volumes to be used for the existing conditions analysis.

TABLE 4.1

EXISTING TRANSPORTATION SYSTEM NETWORK
GALLATIN MAJOR THOROUGHFARE PLAN

Federal Aid Functional Classification	Roadway	Route Number	Beginning Point	Ending Point	Number of Lanes	Local Route Classification
Principal Arterial						
	Nashville Pike	SR 6	Shute Lane	Maple Street	5	Major Arterial
	West Main Street	SR 6	Maple Street	West Broadway	5	Major Arterial
	West Main Street	SR 6	West Broadway	Hickory Avenue	4	Major Arterial
	West Main Street	SR 25	Hickory Avenue	South Water Avenue	3	Major Arterial
	West Broadway	SR 25	West Main Street	Water Avenue	4 (Divided)	Major Arterial
	East Broadway	SR 6	Water Avenue	Joann Street	4 (Divided)	Major Arterial
	East Broadway	SR 6	Joann Street	Airport Road	3	Major Arterial
	East Broadway	SR 6	Airport Road	City Limits	2	Major Arterial
	Highway 109	SR 109	City Limits	Airport Road	2	Major Arterial
	Highway 109 Bypass	SR 109	Airport Road	Red River Road	4 (Divided)	Major Arterial
	South Water Avenue		Broadway	Main Street	2	Major Arterial
	South Water Avenue		Main Street	Bledsoe Street	3	Major Arterial
	South Water Avenue		Bledsoe Street	Factory Lane	2	Major Arterial
	South Water Avenue		Factory Lane	Hite Street	3	Major Arterial
	South Water Avenue		Hite Street	Highway 109	2	Major Arterial
	East Main Street	SR 25	South Water Street	Westland Avenue	3	Major Arterial
	East Main Street	SR 25	Westland Avenue	Hartsville Pike	2-EB,1-WB	Major Arterial
	Hartsville Pike	SR 25	East Main Street	East of Center Drive	5	Major Arterial
	Hartsville Pike	SR 25	East of Center Drive	Woodlands Drive	3	Major Arterial
	Hartsville Pike	SR 25	Woodlands Drive	City Limits	2	Major Arterial
Minor Arterial						
	Long Hollow Pike	SR 174	Buckingham Boulevard	Red River Road	2	Major Arterial
	Red River Road	SR 25	Highway 109	Long Hollow Pike	2	Minor Arterial
	Airport Road		Highway 109	Hartsville Pike	2	Minor Arterial
	Dobbins Pike	SR 174	North Water Avenue	City Limits	2	Minor Arterial
	North Water Avenue		Broadway	City Limits	2	Minor Arterial
	Albert Gallatin Road	SR 174	East Broadway	North Water Street	3	Minor Arterial

Source: Neel-Schaffer, 1999

TABLE 4.1 (continued)

EXISTING TRANSPORTATION SYSTEM NETWORK
GALLATIN MAJOR THOROUGHFARE PLAN

Federal Aid Functional Classification	Roadway	Route Number	Beginning Point	Ending Point	Number of Lanes	Local Route Classification
Urban Collector						
	Station Camp Creek Road		Nashville Pike	City Limits	2	Minor Collector
	Cages Bend Road		Nashville Pike	City Limits	2	Major Collector
	Douglas Bend Road		Nashville Pike	Lori Lee Drive	2	Major Collector
	Nichols Lane		Lock Four Road	Highway 109	2	Major Collector
	Lock Four Road		Nashville Pike	Nichols Lane	2	Minor Arterial
	Belvedere Drive		Nashville Pike	Long Hollow Pike	2	Major Collector
	Hancock Street		Lock Four Road	Highway 109	2	Minor Arterial
	Hancock Street		Highway 109	Greeenwave Drive	5	Minor Arterial
	Hancock Street		Greeenwave Drive	Maple Street	4	Minor Arterial
	Maple Street		Nashville Pike	Hancock Street	5	Minor Arterial
	Maple Street		Hancock Street	Louise Street	3	Minor Arterial
	Maple Street		Louise Street	South Water Street	2	Minor Arterial
	Airport Road		Hartsville Pike	East Broadway	2	Minor Arterial
	Westland Avenue		East Main Street	Coles Ferry Road	2	Major Collector
	Coles Ferry Road		South Water Street	Airport Road	2	Minor Arterial
	Locust Street		West Main Street	Winchester Street	2	Minor Collector
	Winchester Street		Locust Street	Westland Street	2	Major Collector
	East Main Street		East Broadway	Hartsville Pike	2	Major Collector
	College Avenue		East Main Street	East Broadway	2	Major Collector
	West Eastland Avenue		Red River Road	West Broadway	2	Minor Arterial
	Blythe Avenue		Red River Road	North Water Street	2	Minor Arterial
Local Streets						
	Shute Lane		Nashville Pike	Cages Bend Road	2	Local
	Lock Four Road		Nichols Lane	City Limits	2	Major Collector
	Red River Road	SR 25	Buckingham Boulevard	Highway 109	2	Minor Arterial
	Coles Ferry Road		Airport Road	City Limits	2	Major Collector
	Peach Valley Road		Highway 109	Lock Four Road	2	Minor Collector
	Browns Lane		Nashville Pike	City Limits	2	Minor Collector
	Steam Plant Road		Hartsville Pike	City Limits	2	Minor Arterial
	Cairo Road		Airport Road	Hartsville Pike	2	Minor Collector
	Odom's Bend Road		Highway 109	City Limits	2	Local
	Harris Lane		Nashville Pike	Long Hollow Pike	2	Minor Collector
	St. Blaise Road		Nashville Pike	Long Hollow Pike	2	Minor Collector

Source: Neel-Schaffer, 1999

TABLE 4.2

EXISTING ROADWAY CHARACTERISTICS
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY	FROM	TO	NUMBER OF LANES	ROADWAY WIDTH	SHOULDER WIDTH	STRIPING
Nashville Pike	Shute Lane	Highway 109	5	60'	10'	Yes
	Highway 109	Maple Street	5	60'	6'	Yes
West Main Street	Maple Street	West Broadway	5	60'	6'	Yes
	West Broadway	Hickory Avenue	4	44'	—	Yes
	Hickory Avenue	Water Street	3	36'	—	Yes
West Broadway	West Main Street	Water Street	4 (Divided)	48'	4'-6'	Yes
East Broadway	Water Street	South of Joann Street	4 (Divided)	48'	4'-6'	Yes
	South of Joann Street	Airport Road	3	36'	4'-6'	Yes
	Airport Road	East of City Limits	2	24'	10'	Yes
Highway 109	City Limits	Nichols Lane	2	24'	2'	Yes
	Nichols Lane	Airport Road	2	24'	4'-6'	Yes
Highway 109 Bypass	Airport Road	Red River Road	4 (Divided)	48'	10'	Yes
South Water Street	Broadway	Main Street	2	24'	—	Yes
	Main Street	Bledsoe Street	3	36'	—	Yes
	Bledsoe Street	Factory Lane	2	24'	2'	Yes
	Factory Lane	Hite Street	3	36'	4'	Yes
	Hite Street	Highway 109	2	24'	4'	Yes
East Main Street	Water Street	Westland Avenue	3	36'	—	Yes
	Westland Avenue	Hartsville Pike	3 (2-EB,1-WB)	36'	—	Yes
	Hartsville Pike	East Broadway	2	24'	2'	Yes
Hartsville Pike	East of Airport Road	500' east of Woodlands Drive	2	24'	6'	Yes
	500' east of Woodlands Drive	0.3 mi east of Center Drive	3	36'	4'	Yes
	0.3 mi east of Center Drive	East Main Street	5	60'	2'-4'	Yes
Long Hollow Pike	Buckingham Boulevard	Red River Road	2	24'	4'-6'	Yes

Source: Neel-Schaffer, 1999

TABLE 4.2 (continued)

EXISTING ROADWAY CHARACTERISTICS
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY	FROM	TO	NUMBER OF LANES	ROADWAY WIDTH	SHOULDER WIDTH	STRIPING
Red River Road	West of Buckingham Boulevard	Main Street	2	24'	2'	Yes
Airport Road	Highway 109	East Broadway	2	24'	6'	Yes
Dobbins Pike	North Water Street	City Limits	2	24'	4'	Yes
North Water Street	East Main Street	West of Dobbins Pike	2	24'	—	Yes
	West of Dobbins Pike	North of City Limits	2	24'	2'	Yes
Albert Gallatin Avenue	East Broadway	Dobbins Pike	3	36'	2'	Yes
Station Camp Creek Road	Nashville Pike	Saundersville Road	—	22'	1'-2'	No
Cages Bend Road	Nashville Pike	South of City Limits	2	22'	—	Yes
Douglas Bend Road	Nashville Pike	Lori Lee Drive	2	22'	—	Yes
Nichols Lane	Lock Four Road	Highway 109	2	24'	2'	Yes
Lock Four Road	Nashville Pike	700' south of Nashville Pike	2	24'	10'	Yes
	700' south of Nashville Pike	Belvedere Street	2	22'	—	Yes
	Belvedere Street	Nichols Lane	2	22'	5'	Yes
	Nichols Lane	City Limits	2	22'	1'	Yes
Belvedere Street	Long Hollow Pike	1000' north of Nashville Pike	2	24'	2'-4'	Yes
	1000' north of Nashville Pike	Nashville Pike	4	48'	0'-2'	Yes
Hancock Street	Lock Four Road	Highway 109	—	24'	—	No
	Highway 109	Greenwave Drive	5	60'	—	Yes
	Greenwave Drive	Maple Street	4	48'	—	Yes
Maple Street	Nashville Pike	Hancock Street	5	60'	—	Yes
	Hancock Street	East of Louise Street	3	36'	—	Yes
	East of Louise Street	South Water Street	2	24'	—	Yes
Westland Avenue	East Main Street	500' South of East Main Street	2	24'	6'-8'	Yes
	500' South of East Main Street	Richland Circle	2	22'	2'	Yes
	Richland Circle	Coles Ferry Road	—	24'	2'	No

Source: Neel-Schaffer, 1999

TABLE 4.2 (continued)

EXISTING ROADWAY CHARACTERISTICS
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY	FROM	TO	NUMBER OF LANES	ROADWAY WIDTH	SHOULDER WIDTH	STRIPING
Coles Ferry Road	South Water Street	Airport Road	2	24'	—	Yes
	Airport Road	City Limits	—	22'	—	No
South Locust Street	West Broadway	West Main Street	2	30'	6'	Yes
	West Main Street	Bledsoe Street	—	20'	—	No
	Bledsoe Street	Winchster Street	—	16'-18'	—	No
Winchester Street	South Locust Street	Westland Avenue	—	24'	—	No
College Avenue	East Main Street	East Broadway	—	22'	—	No
West Eastland Avenue	Broadway	Blythe Street	2	24'	2'-4'	Yes
	Blythe Street	Roosevelt Circle	2	24'	—	Yes
	Roosevelt Circle	Red River Road	2	24'	—	No
Blythe Street	Red River Road	Pace Street	2	24'	2'	Yes
	Pace Street	North Water Street	—	24'	—	No
Shute Lane	Nashville Pike	Avondale Access	2	22'	—	Yes
	Avondale Access	Cages Bend Road	2	20'	—	Yes
Peach Valley Road	Highway 109	West of Cherokee Road	2	22'	2'	Yes
	West of Cherokee Road	Lock Four Road	—	22'	—	No
Browns Lane	Nashville Pike	City Limits	2 (Divided)	22'	—	No
Steam Plant Road	East of City Limits	Airport Road	2	24'	—	Yes
	Airport Road	Hartsville Pike	2	24'	2'-3'	Yes
Cairo Road	Airport Road	Hartsville Pike	2	22'	—	Yes
Odom's Bend Road	Highway 109	City Limits	2	24'	2'	Yes
Harris Lane	Nashville Pike	Long Hollow Pike	—	20'	—	No
St. Blaise Road	Nashville Pike	Long Hollow Pike	—	20'	—	No

Source: Neel-Schaffer, 1999

TABLE 4.3

INVENTORY OF EXISTING PEDESTRIAN FACILITIES
GALLATIN MAJOR THOROUGHFARE PLAN

ROAD	FROM	TO	FACILITY
Nashville Pike	Highway 109	Maple Street	Sidewalk
West Main Street	Maple Street	Broadway	Sidewalk
West Main Street	Broadway	Water Street	Sidewalk
East Main Street	Water Street	Westland Avenue	Sidewalk
West Broadway	Water Street	Red River Road	Sidewalk
Maple Street	Nashville Pike	South Water Street	Sidewalk
North Water Street	Broadway	Dobbins Pike	Sidewalk
South Water Street	Broadway	Factory Lane	Sidewalk
Hancock Street	Lock Four Road	Maple Street	Sidewalk
South Westland Avenue	East Main Street	Richland Circle	Sidewalk
Locust Street	Broadway	Main Street	Sidewalk
Albert Gallatin Road	Water Street	East Broadway	Sidewalk
West Eastland Avenue	Broadway	Roosevelt Street	Sidewalk
Winchester Road	Water Street	South Westland Avenue	Sidewalk
Blythe Avenue	Gray Street	Pace Street	Sidewalk

Source: Neel-Schaffer, 1999

TABLE 4.4

HISTORIC TRAFFIC GROWTH ANALYSIS
GALLATIN MAJOR THOROUGHFARE PLAN

Roadway	Segment	TDOT Station	Average Daily Traffic (vpd)																	Avg. Growth Per Year
			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
E. Broadway	E. of Airport Road	88		5,958	6,945	6,290	7,186	8,000	6,942	9,985	9,483	8,203	9,157	9,476	9,637	9,947	10,460	11,684	11,609	5.6%
	W. of Joann Street	100	7,155	7,110	8,782	8,310	8,274	8,933	9,193	9,340	10,345	11,934	11,000	9,874	11,478	11,865	11,700	14,303	13,985	5.7%
W. Broadway	W. of Water Street	95	10,843	11,130	13,190	15,110	15,917	15,550	16,064	18,769	16,034	17,255	18,015	14,968	16,935	18,120	18,846	20,215	18,260	3.4%
W. Main Street	Btwn. Water Street and Broadway	93	11,682	12,660	12,180	13,340	12,858	13,651	12,488	12,017	14,389	15,052	14,607	13,359	12,836	16,898	18,404	16,417	13,706	2.1%
	N. of Maple Street	193						29,641	28,646	33,540	24,434	27,457	31,093	23,037	29,814	28,138	29,583	30,915	39,824	1.6%
Highway 109	N. of Douglas Lane	102																	8,206	
	N. of Red River Road	197																	6,528	
	N. of Long Hollow Pike	196													2,613	3,305	3,197	3,810	8,534	67.8%
	N. of Nashville Pike	195													5,865	7,170	6,842	9,112	11,656	24.9%
	S. of Nashville Pike	194											6,249	6,378	10,477	9,695	9,443	11,667	17,937	29.1%
South Water Street	N. of Airport Road	106	10,000	10,060	9,678	9,550	10,389	10,017	9,654	11,520	9,133	9,157	8,863	7,898	10,431	8,493	9,567	8,831	8,446	-0.9%
	N. of Maple Street	134	12,037	14,325	9,516	14,180	18,469	13,051	13,602	14,679	13,263	12,955	13,081	11,834	13,944	12,230	13,164	13,845	11,984	-0.3%
Steam Plant Road	N. of Odoms Bend Road	135	1,231	1,200	918	1,197	1,258	1,048	1,409	1,064	1,198	972	1,285	835	1,130	846	825	810	820	-1.9%
	N. of Airport Road	136	3,620	2,880	3,406	3,990	4,053	3,675	4,069	4,572	3,842	4,112	4,025	4,158	4,200	3,077	3,558	3,328	3,158	-0.2%
Odoms Bend Road	E. of Highway 109	137		800	772	981	1,145	1,127	1,360	1,430	1,143	1,564	1,343	1,191	1,200	1,277	1,170	1,521	1,530	3.6%
Peach Valley Road	E. of Highway 109	138	408	455	330	206	389	384	412	420	498	520	403	465	376	518	500	405	385	1.5%
Nichols Lane	W. of Highway 109	139					3,889	3,911	4,000	4,655	4,717	5,277	2,247	2,130	1,634	2,142	2,502	2,142	2,226	-5.0%
South Westland Avenue	N. of Park Avenue	140	8,315	6,397	5,743	5,970	5,914	6,000	7,045	5,139	5,773	5,779	5,701	5,311	5,019	5,608	5,860		5,654	-1.3%
	N. of Coles Ferry Road	168					3,153	2,448	4,134	3,704	2,963	3,028	3,120	2,558	3,001	3,001	3,233	4,954	3,191	1.2%
North Blythe Street	N. of W. Eastland	144	6,627	5,826	5,464	5,850	6,386	6,500	7,754	7,800	7,269	6,299	7,203	7,100	6,500	8,935	7,194	8,194		2.2%

Source: TDOT, 1999

TABLE 4.4 (continued)

HISTORIC TRAFFIC GROWTH ANALYSIS
GALLATIN MAJOR THOROUGHFARE PLAN

Roadway	Segment	TDOT Station	Average Daily Traffic (vpd)																	Avg. Growth Per Year
			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Station Camp Creek Rd.	S. of Saundersville Road	69	495	361	275	203	321	275	428	866	1,075	1,516	774	965	950	1,658	1,660	1,679	1,690	16.0%
Cages Bend Road	N. of Shute Lane	70	1,237	1,682	1,593	1,500	1,691	1,217	1,612	1,731	1,670	1,858	1,497	1,515	1,678	1,672	1,649	1,660	1,698	0.9%
Long Hollow Pike	Near St. Blaise Road	72	3,079	3,170	3,103	4,064	4,989	4,993	4,213	4,336	5,005	3,075	3,159	3,167	3,665	3,429	4,416	4,360	5,039	1.0%
	E. of Highway 109	77	3,237	3,974	3,731	5,136	5,597	6,132	6,368	6,450	5,358	3,360	5,771	3,699	4,766	5,972	7,307	7,579	7,606	4.3%
Lock Four Road	S. of Nichols Rd.	73	1,199	1,823	1,317	1,044	1,227	1,930	1,398	1,550	1,690	2,136	1,732	1,230	1,398	1,643	1,668	1,486	1,448	0.8%
	N. of Hancock Street	105	2,770	3,832	3,675	4,240	4,472	5,304	4,857	5,250	4,224	5,542	3,744	3,243	3,766	3,705	4,271	3,988	6,177	1.1%
Nashville Pike	Just S. of Lock Four Road	74	17,791	19,291	18,555	19,400	31,582	21,980	25,994	28,576	27,794	26,438	31,025	22,074	28,470	29,326	28,181	33,266	40,291	4.8%
	N. of Harris Lane	97	14,481	15,793	16,221	18,680	23,868	24,000	22,454	23,567	24,067	24,972	26,204	21,947	28,863	28,554	39,192	35,905	35,448	8.6%
	N. of Shute Lane	108	16,599	15,646	17,422	19,137	19,663	20,373	23,959	33,200		27,551	24,232	29,160	32,697	30,948	33,384	32,802	42,802	8.7%
Coles Ferry Pike	E. of Airport Road	76	1,659	1,887	1,528	1,750	1,590	1,640	1,828	1,800	1,846	1,922	1,729	1,619	1,966	1,919	2,325	2,165	2,093	1.9%
Red River Road	E. of Highway 109	78	2,697	2,761	2,695	3,020	3,119	3,336	3,258	3,190	3,461	3,769	4,585	3,666	2,815	2,829	3,079	3,058	3,145	0.8%
	E. of Long Hollow Pike	94							8,562	9,190	10,228	10,512	10,115	10,278	8,707	11,209	11,587	10,684	10,313	1.8%
North Water Street	S. of Douglas Lane	79					7,318	6,545	8,441	7,187	8,264	7,669	6,150	5,566	8,024		8,121	8,109	4,268	0.8%
	E. of Blythe Street	170					6,710	7,624	6,949		7,039	7,958	8,521	7,274	7,607	8,471	7,592	8,126	5,732	0.3%
	S. of Dobbins Pike	104					10,377		10,096	10,037	9,896	10,785	11,870	11,700	10,245	11,827	9,565	9,573	8,208	-0.6%
	Btwn. Broadway and Main Steet	96		10,088	9,400	11,100	10,026		8,830	10,418	9,710	8,822	11,080	8,526	8,092	10,361	12,070	11,526	11,219	0.7%
East Main Street	W. of Timber Lane	81	2,554	2,018	2,063	1,910	1,767	2,163	1,966	1,961	3,126	2,256	2,394	2,274	2,356	2,496	2,596	2,549	2,475	1.6%
	E. of Water Street	83	13,372	12,740	13,485	16,090	14,293	17,152	14,322	17,244	15,423	15,134	14,839	15,000	14,175	14,153	15,389	14,612	15,484	0.4%
Hartsville Pike	E. of Cairo Road	82	5,412	6,140	6,525	6,260	6,161	6,915	6,497	6,505	7,338	6,738	7,341	6,815	6,797	7,244	7,533	7,856	7,743	1.9%
	E. of Main Street	92	10,000	9,287	10,366	9,590	13,834		9,895	17,217	10,729	10,471	8,789	9,094	9,574	10,554	11,008	11,645	12,369	0.1%
Cairo Road	S. of Hartsville Pike	84	1,117	1,130	1,116	1,150	1,184	1,278	1,200	1,293	1,294	1,565	1,213	1,415	1,375	1,397	1,591	1,653	1,722	3.3%
	S. of Barry Line	85	193	390	306	163	137	690	434	450	352	376	399	323	392	352	318	280	290	0.6%

Source: TDOT, 1999

TABLE 4.4 (continued)

HISTORIC TRAFFIC GROWTH ANALYSIS
GALLATIN MAJOR THOROUGHFARE PLAN

Roadway	Segment	TDOT Station	Average Daily Traffic (vpd)																	Avg. Growth Per Year
			1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
West Eastland Street	E. of River Road	145	3,118	3,487	3,569	3,800	4,793	6,518	5,228	5,330	4,622	4,020	4,362	4,030	3,926	4,318	4,095	4,108	3,987	0.2%
East Eastland Street	E. of South Water Street	211												3,236	2,968	3,500		3,139	3,097	-0.5%
Maple Street	E. of Hancock Street	146	8,366	10,890	8,236		9,269	10,577	9,532	11,333	10,476	10,525	9,156	8,691	8,592	9,457	9,601	9,638	8,224	0.0%
Dobbins Pike	N. of Hix Lane	159			3,050	3,761	4,028	6,163	5,682	5,800	5,167	4,815	4,728	4,800	4,745	5,148	5,881	5,087	4,988	1.8%
Winchester Street	E. of South Water Street	165				1,030	1,421	1,426	1,595	1,550	894	1,185	1,256	1,542	1,102	1,400	1,411	1,486	1,308	0.5%
North Belvedere Street	N. of Nashville Pike	171					4,017	4,327	4,166	4,507	4,360	6,329	6,592	6,358		4,586	4,211	3,829	6,714	2.2%
Airport Road	E. of Steam Plant Road	209											2,603	3,813	4,826	5,637	6,445	6,598	6,307	20.3%
	S. of East Broadway	210											3,645	2,536	3,365	3,614	3,811	4,161	4,156	6.1%
College Street	S. of East Broadway	212												4,037	4,467	5,485	5,193	5,471	5,562	6.9%
Albert Gallatin Road	E. of Dobbins Pike	215														2,905	3,378	3,981	3,287	5.6%

Source: TDOT, 1999

N

LEGEND

- 1250 # — TDOT Cycle Counts
- *1250 #* — Estimated From Models
- Streets
- Railroad
- Streams
- City Boundaries

DOWNTOWN GALLATIN

Figure No. 4.1
1996 ADT Traffic Volumes

Gallatin Major Thoroughfare Plan

NEEL-SCHAFFER, INC.
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N

LEGEND

- 1250 — TDOT Cycle Counts
- *1250* — Estimated From Models
- Streets
- Railroad
- Streams
- City Boundaries

DOWNTOWN GALLATIN

Figure No. 4.1
1996 ADT Traffic Volumes

Gallatin Major Thoroughfare Plan

NEEL-SCHAFFER, INC.
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4.4 Capacity of Existing Roadway Network

The Transportation Research Board has developed a standardized procedure for evaluating the capacity of a roadway. The six-tiered system is a nationally used and accepted criterion known as Levels of Service (LOS). A roadway's level of service attempts to relate the volume of traffic using a facility to its theoretical capacity. As volume levels increase, users begin to experience noticeable congestion and travel delay. This relationship is expressed in terms of a fraction: volume over capacity (v/c). The system describes a road's v/c during low traffic flow (small v/c) to capacity flow (v/c approaching 1.0). The levels of service range from the designation "A", free flow condition, to that of "F" which indicates flow breakdown. Table 4.5 provides a detailed description for each of the six conditions.

There are various methods of applying the levels of service system. The Alabama Department of Transportation and the Maryland State Highway Association originally developed the procedure used by the MPO. The LOS is determined from a comparison of the network link volumes to thresholds of capacity as determined by the above agencies. The levels of service are based on roadway's classification and number of lanes. Table 4.6 illustrates the determination of levels of service based on classification and volumes. It should be noted that these criteria represent broad assumptions. A LOS determination using this assumption does not account for specific traffic characteristics that affect a roadway's capacity (such as truck percentage or grade). Also, individual intersection analyses are beyond the scope of major thoroughfare plans. Major thoroughfare plans best represent broad trends of efficiency along a city corridor.

Using the above methodology, Gallatin's transportation network was analyzed under 1996, or base year, traffic conditions. Figure 4.2 shows a graphical representation of the LOS analysis results. The results reveal that, under 1996 existing conditions, the majority of Gallatin's road network operate within acceptable limits. The exceptions to this occur along the major arterials leading into the central business district: State Route 6 (Nashville Pike) between Douglas Bend and Lock Four Road, SR 109 between Airport Road and the southern city limits and State Route 6 (West Main Street) between Maple Street and State Route 25 (Red River Road). These corridors contain commercial retail land uses with adjacent residential areas. With the amount of economic and population experienced in Gallatin recently, this creates the problems currently being experienced: heavy congestion with long delays during peak periods. However, these delays are relatively short-lived as conditions drastically improve after the peak rush periods. Certain mobility issues have also arisen. Due to the presence of a railroad line paralleling State Route 6 (Nashville Pike), emergency personnel have expressed concerns about the inability to access areas of Gallatin due to the limited amount of grade-separated crossings over the rail line. Also, persons with destinations outside the Gallatin downtown area must still travel through town because of the lack of an efficient east-west connector around town. As Gallatin attracts additional commercial and industrial development, the combination of through traffic and vehicle trips with destinations within the downtown area will put an increased demand on an already limited roadway network. Table 4.7 summarizes the existing transportation system and the LOS analysis results.

TABLE 4.5

GENERAL DESCRIPTION OF LEVELS OF SERVICE
GALLATIN MAJOR THOROUGHFARE PLAN

LEVEL OF SERVICE	DESCRIPTION
A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Users experience very low delay.
B	Within the range of stable flow. The presence of others become noticable and slightly interferes with a driver's freedom to maneuver. Operation experiences low delay.
C	Within the range of stable flow. The operation of individual users becomes significantly affected by interactions with other vehicles. Low to moderate delay may be experienced.
D	This level approaches the limit of stable flow. A user's freedom to maneuver is limited. The influence of congestion on free flow speed becomes apparent. Temporary unstable flow could be experienced.
E	Operations enter unstable flow. The presence of other users severely impacts on an individual's freedom to maneuver. Comfort and convenience levels very poor. Vehicle stream frequently moves in and out of "breakdown" conditions.
F	Operations operate with vehicle flows beyond capacity. Drivers experience unacceptable delays. This condition exists when the amount of traffic approaching a point exceeds the threshold that the route can throughput. Vehicle flow will remain under "breakdown" conditions until user demand subsides.

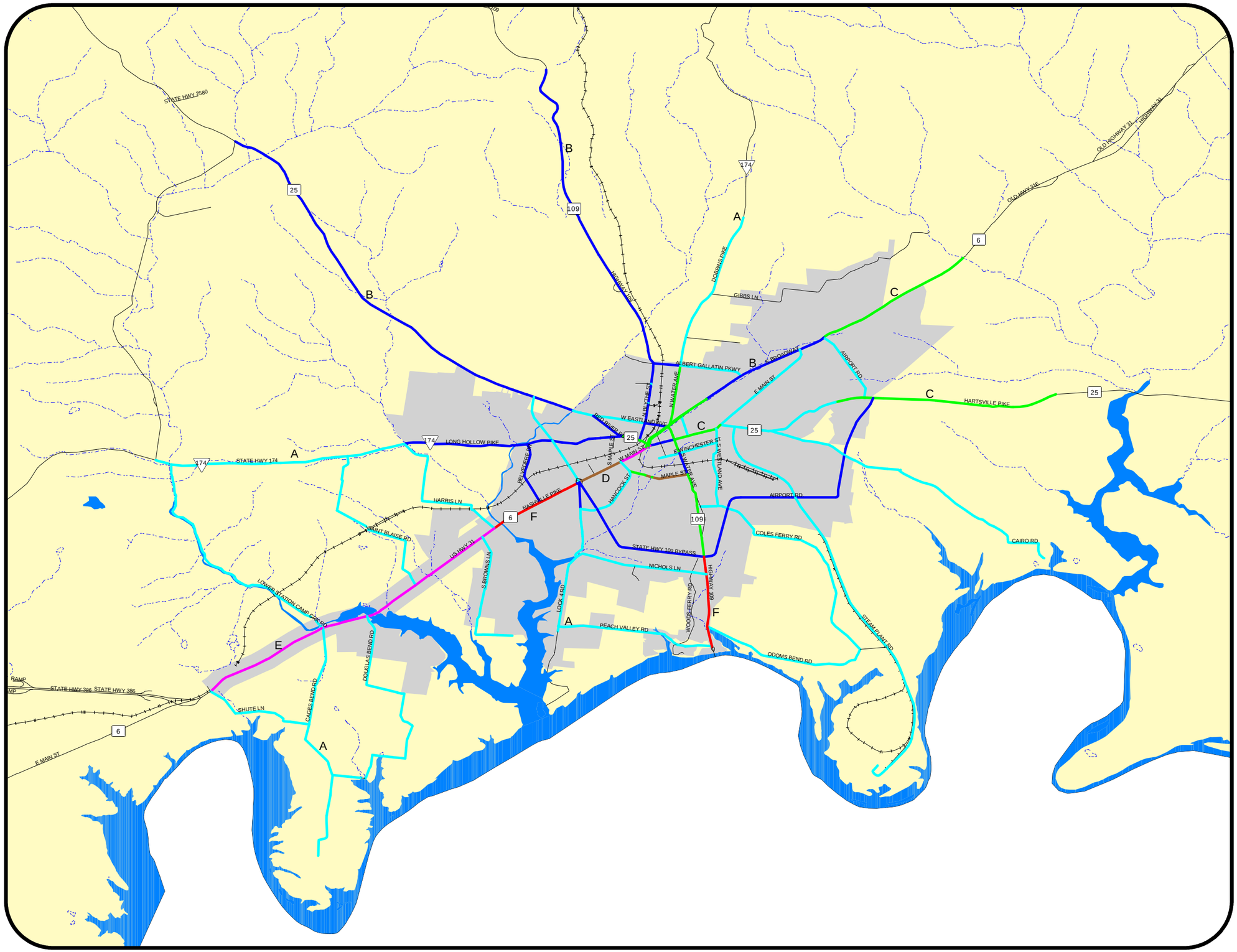
Source: Highway Capacity Manual, TRB Special Report 209

TABLE 4.6

DAILY VOLUMES RELATED TO LEVEL OF SERVICE
GALLATIN MAJOR THOROUGHFARE PLAN UPDATE

ROADWAY TYPE	LOS A	LOS B	LOS C	LOS D	LOS E
4 Lane Freeway	31,700	45,300	56,200	68,000	90,700
6 Lane Freeway	47,600	68,000	84,300	102,000	136,000
8 Lane Freeway	63,500	90,600	112,400	136,000	181,300
4 Lane Expressway	23,300	33,400	41,400	50,000	66,700
6 Lane Expressway	35,000	50,000	62,000	75,000	100,000
8 Lane Expressway	47,000	66,000	82,000	100,000	133,000
2 Lane Arterial, Urban	6,500	9,400	11,600	14,000	18,700
3 Lane Arterial, Urban	8,200	11,600	14,400	17,500	23,300
4 Lane Arterial, Urban	10,700	15,400	19,000	23,000	30,700
5 Lane Arterial, Urban	12,400	17,600	21,900	26,500	35,300
6 Lane Arterial, Urban	20,500	29,400	36,400	44,000	58,700
7 Lane Arterial, Urban	22,400	32,000	39,700	48,000	64,000
8 Lane Arterial, Urban	25,700	36,600	45,400	55,000	73,300
2 Lane Arterial, Rural	8,400	12,000	14,900	18,000	24,000
3 Lane Arterial, Rural	10,500	15,000	18,600	22,500	30,000
4 Lane Arterial, Rural	13,100	18,600	23,100	28,000	37,300
5 Lane Arterial, Rural	15,200	21,600	26,800	32,500	43,300
2 Lane Collector, Urban	5,100	7,400	9,100	11,000	14,700
3 Lane Collector, Urban	6,400	9,200	11,300	13,700	18,300
4 Lane Collector, Urban	8,400	12,000	14,900	18,000	24,000
5 Lane Collector, Urban	10,700	15,400	19,000	23,000	30,700
2 Lane Collector, Rural	6,500	9,400	11,600	14,000	18,700
3 Lane Collector, Rural	8,200	11,600	14,500	17,500	23,300

Source: Alabama DOT and Maryland SHA



LEGEND

LOS Assignments

- A
- B
- C
- D
- E
- F

- Streets
- Railroad
- Streams
- City Boundaries

Figure No. 4.2
1996 Existing System Levels of Service

Gallatin Major Thoroughfare Plan

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TABLE 4.7

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service
Nashville Pike (SR 6)	Shute Lane - Cages Bend Road	5	10'	Yes	33,400	**E**
Nashville Pike	Cages Bend - Douglas Bend	5	10'	Yes	31,200	**E**
Nashville Pike	Douglas Bend - Harris Lane	5	10'	Yes	32,870	**E**
Nashville Pike	Harris Lane - Belvedere Drive	5	10'	Yes	38,500	**F**
Nashville Pike	Belvedere Drive - Lock Four Road	5	10'	Yes	42,900	**F**
Nashville Pike	Lock Four Road - Maple Street	5	6'	Yes	25,570	D
West Main Street	Maple Street - West Broadway	5	6'	Yes	29,600	**E**
West Main Street	West Broadway - Hickory Avenue	4	—	Yes	10,100	B
West Main Street	Hickory Avenue - Water Street	3	—	Yes	10,100	B
West Broadway	West Main Street - Water Street	4	4'	Yes	18,380	C
East Broadway	Water Street - Joann Street	4	4'	Yes	18,800	C
East Broadway	Joann Street - Airport Road	3	4'	Yes	11,700	B
East Broadway	Airport - City Limits	2	10'	Yes	10,400	C
Highway 109	City Limits - Nichols Lane	2	2'	Yes	19,500	**F**
Highway 109	Nichols Lane - Airport Road	2	4'	Yes	21,000	**F**
Highway 109 (Bypass)	Airport Road - Nashville Pike	4	10'	Yes	9,400	B
Highway 109 (Bypass)	Nashville Pike - Long Hollow Pike	4	10'	Yes	6,800	A
Highway 109 (Bypass)	Long Hollow Pike - Red River Road	4	10'	Yes	3,200	A
South Water Street	Broadway - Main Street	2	—	Yes	10,770	C
South Water Street	Main Street - Bledsoe Street	3	—	Yes	14,100	C
South Water Street	Bledsoe Street - Factory Lane	2	2'	Yes	13,100	C
South Water Street	Factory Lane - Hite Street	3	4'	Yes	10,960	B
South Water Street	Hite Street - Highway 109	2	4'	Yes	9,600	C
East Main Street	Water Street - Hartsville Pike	3	—	Yes	14,400	C
East Main Street	Hartsville Pike - East Broadway	2	2'	Yes	2,600	A
Hartsville Pike	Airport Road - Woodlands Drive	2	6'	Yes	9,650	C

Source: Neel-Schaffer, 1999

TABLE 4.7 (continued)

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service
Hartsville Pike	Woodlands Drive - East of Center Drive	3	4'	Yes	7,500	A
Hartsville Pike	East of Center Drive - East Main Street	5	2'	Yes	11,100	A
Long Hollow Pike	Buckingham Boulevard - Highway 109, Vietnam Veterans (2020)	2	2'	Yes	8,030	B
Long Hollow Pike	Highway 109 - Red River Road	2	4'	Yes	7,600	B
Red River Road	Highway 109 - Long Hollow Pike	2	2'	Yes	7,400	B
Red River Road	Long Hollow Pike - Main Street	2	2'	Yes	11,600	C
Airport Road	Highway 109 - Hartsville Pike	2	6'	Yes	8,200	B
Airport Road	Hartsville Pike - East Broadway	2	6'	Yes	3,800	A
Dobbins Pike	North Water Street - City Limits	2	4'	Yes	5,800	A
North Water Street	East Main Street - Dobbins Pike	2	—	Yes	9,600	C
North Water Street	Dobbins Pike - City Limits	2	2'	Yes	7,600	B
Albert Gallatin Avenue	East Broadway - Dobbins Pike	3	2'	Yes	3,380	A
Station Camp Creek Road	Nashville Pike - City Limits	(22')	2'	No	1,690	A
Cages Bend Road	Nashville Pike - City Limits	2	—	Yes	1,700	A
Douglas Bend Road	Nashville Pike - Lori Lee Drive	2	—	Yes	2,500	A
Nichols Lane	Lock Four Road - Highway 109	2	2'	Yes	2,500	A
Lock Four Road	Nashville Pike - Belvedere Drive	2	—	Yes	4,100	B
Lock Four Road	Belvedere Drive - Nichols Lane	2	5'	Yes	3,030	A
Lock Four Road	Nichols Lane - City Limits	2	1'	Yes	1,670	A
Belvedere Street	Long Hollow Pike - Nashville Pike	2	2'	Yes	4,200	A
Hancock Street	Lock Four Road - Highway 109	(24')	—	No	2,780	A
Hancock Street	Highway 109 - Greenwave drive	5	—	Yes	3,800	A
Hancock Street	Greenwave Drive - Maple Street	4	—	Yes	3,800	A
Maple Street	Nashville Pike - Hancock Street	5	—	Yes	10,200	A
Maple Street	Hancock Street - Louise Street	3	—	Yes	9,600	C
Maple Street	Louis Street - South Water Street	2	—	Yes	9,600	D

Source: Neel-Schaffer, 1999

TABLE 4.7 (continued)

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY

GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service
Westland Avenue	East Main Street - Richland Circle	2	2'	Yes	3,230	A
Westland Avenue	Richland Circle - Coles Ferry Road	(24')	2'	No	3,230	A
Coles Ferry Road	South Water Street - Airport Road	2	—	Yes	3,300	A
Coles Ferry Road	Airport Road - City Limits	(22')	—	No	2,300	A
Winchester Street	South Locust - Westland Avenue	(24')	—	No	1,400	A
College Avenue	East Main Street - East Broadway	(22')	—	No	2,700	A
West Eastland Avenue	Broadway - Blythe Street	2	2'	Yes	5,600	B
West Eastland Avenue	Blythe Street - Roosevelt Circle	2	—	Yes	5,600	B
West Eastland Avenue	Roosevelt Circle - Red River Road	(24')	—	No	4,100	A
Blythe Street	Red River Road - Pace Street	2	2'	Yes	7,200	B
Blythe Street	Pace Street - North Water Street	(24')	—	No	7,200	B
Shute Lane	Nashville Pike - Cages Bend Road	2	—	Yes	1,530	A
Peach Valley Road	Highway 109 - Cherokee Road	2	2'	Yes	1,410	A
Peach Valley Road	Cherokee Road - Lock Four Road	(22')	—	No	1,710	A
Brown's Lane	Nashville Pike - City Limits	2 (Divided)	—	No	1,010	A
Steam Plant Road	Hartsville Pike - City Limits	2	0'-3'	Yes	3,600	A
Cairo Road	Airport Road -Hartsville Pike	2	—	Yes	1,600	A
Odom's Bend Road	Highway 109 - City Limits	2	2'	Yes	1,100	A
Harris Lane	Nashville Pike	(20')	—	No	3,900	A
St Blaise Road	Nashville Pike - Long Hollow Pike	(20')	—	No	2,660	A

Source: Neel-Schaffer, 1999

5.0 FUTURE TRANSPORTATION SYSTEM NETWORK

5.1 Introduction

Economic development and transportation planning have a complex interdependency. If a community was to grow in population and jobs, but did not provide additional transportation improvements (new roads and widening), system failure would likely occur. This section of the report considers the projected 20-year growth of Gallatin and its impact on the existing transportation system. In addition to the existing transportation facilities, any projects found within the Transportation Improvement Program (TIP) will also be considered. These projects have been assigned funding sources and are considered committed. Therefore, the projected transportation demand will be weighed against the existing plus committed transportation network over a 20-year study period. Based on this, this section will also evaluate the existing plus committed network.

5.2 Projected Land Use Characteristics

The method of predicting future demand on the transportation network closely follows that of the existing conditions. Each of the traffic analysis zones within the study area possesses socioeconomic data (population, employment, labor force, etc.). The 2020 demographic information is found by projecting the existing (1996) socioeconomic data into the future. The estimates are based on the future land use plan for Gallatin, historical economic trends, and standard forecast methods.

After forecasting the 2020 land use characteristics, the transportation demand model loads the transportation network with traffic volumes based on type and intensity of land uses within each TAZ. Table 5.1 shows the predicted socioeconomic data for each of the traffic analysis zones. Also, Figures 5.1, 5.2 and 5.3 graphically show the estimated population, labor force, and employment forecasts, respectively.

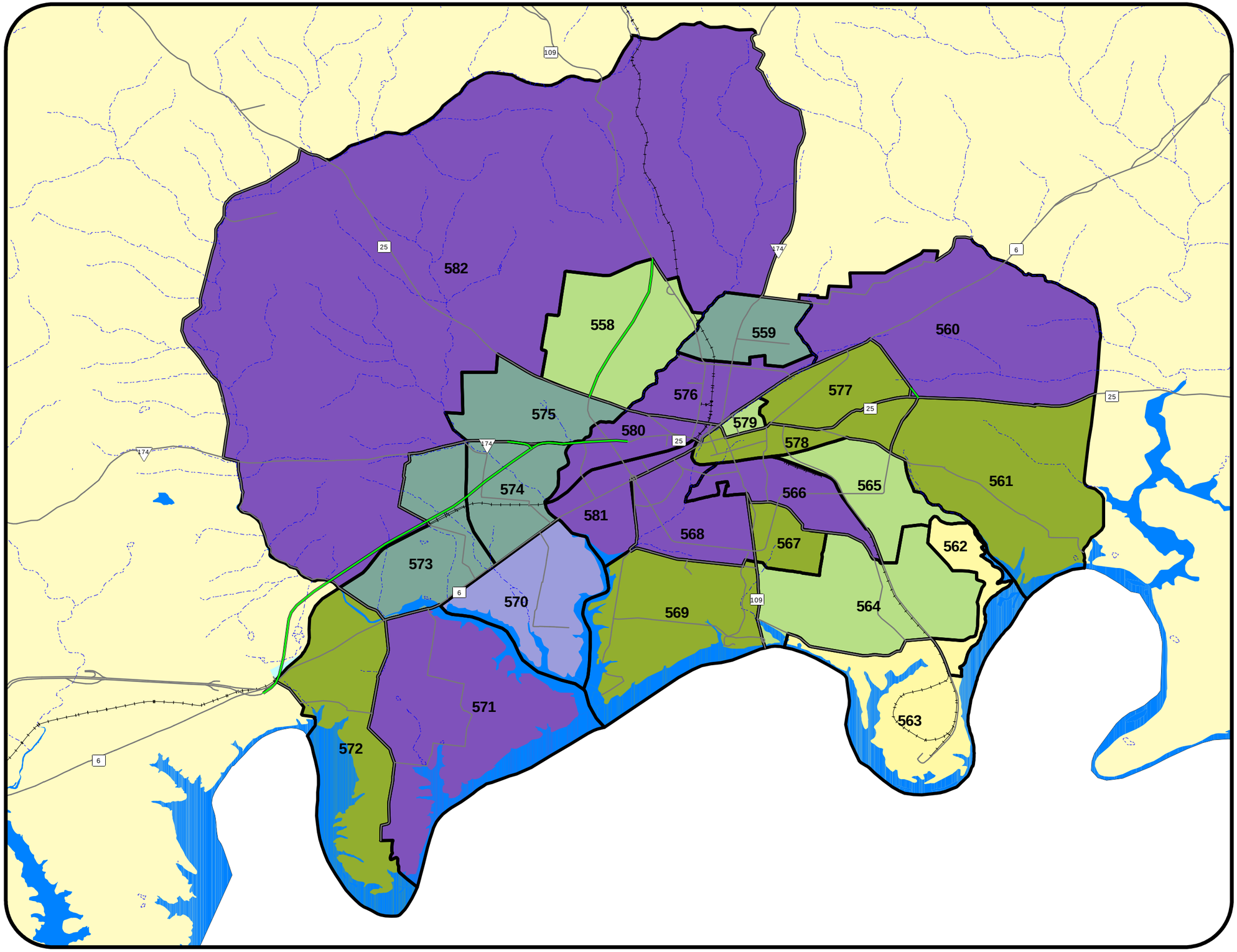
The results of the socioeconomic projections show that Gallatin will experience continued economic and population expansion. Household population, and therefore labor force, estimates predict the largest increase of residential population west and southwest of the downtown area. The traffic analysis zones within this area are projected to support three to four times the number of households in 2020, as compared to the 1996 existing conditions. This will be a result of the improved access created by the construction of the proposed Vietnam Veterans Boulevard Extension and the availability of developable land. The economic base is expected to grow in two main areas. The land use analysis indicated commercial and retail businesses should steadily grow immediately adjacent to Nashville Pike, Long Hollow Pike (west of State Route 109), and the proposed Vietnam Veterans Boulevard Extension (between Harris Lane and State Route 109). On the east side of Gallatin, the land use plan calls for a continued increase in industrial development. Steam Plant Road and Airport Road currently support existing industrial land uses. These results closely follow the intent of the city's current land use plan. Future commercial uses are planned along or directly adjacent to existing or proposed arterial roadways; while, less intense residential development will take place outside the commercial development.

TABLE 5.1

2020 SOCIOECONOMIC DATA
GALLATIN MAJOR THOROUGHFARE PLAN

Original TAZ Designation	Study TAZ Number		Household Population	Households	Total Labor Force	Employment	Number of Vehicles
402	558		696	284	376	10	613
405	559		1018	360	422	244	524
412	560		2775	929	1376	567	2055
412	561		2214	771	1142	791	1706
407	562		323	129	157	25	243
407	563		267	101	122	1013	190
407	564		696	264	320	680	497
407	565		733	278	337	1113	523
407	566		2622	1041	1261	2094	1959
404	567		2036	766	1043	329	1425
404	568		3575	1296	1765	1209	2412
404	569		2024	799	1088	309	1487
402	570		1950	746	988	588	1611
281	571		4208	1395	2050	328	3143
281	572		2163	780	1145	153	1756
402	573		1165	445	589	718	961
402	574		1350	516	683	1315	1114
402	575		1222	468	620	309	1011
405	576		4574	1616	1894	1749	2352
406	577		2207	892	893	706	1288
406	578		2018	762	763	4062	1101
406	579		881	535	536	870	773
405	580		2586	896	1051	1553	1305
404	581		2985	1170	1549	2756	2176
402	582		3686	1293	1723	130	3014
TOTALS			**46,288**	**17,239**	**22,170**	**23,491**	**32,225**

Source: Tocknell & Associates, 1999



N

LEGEND

Household Population (People)

- 0 - 500
- 500 - 1000
- 1000 - 1500
- 1500 - 2000
- 2000 - 2500
- 2000 +
- Committed Roads
- Streets
- Railroad
- Streams

Figure No. 5.1
Summary of 2020 Household Population by TAZ

Gallatin Major Thoroughfare Plan

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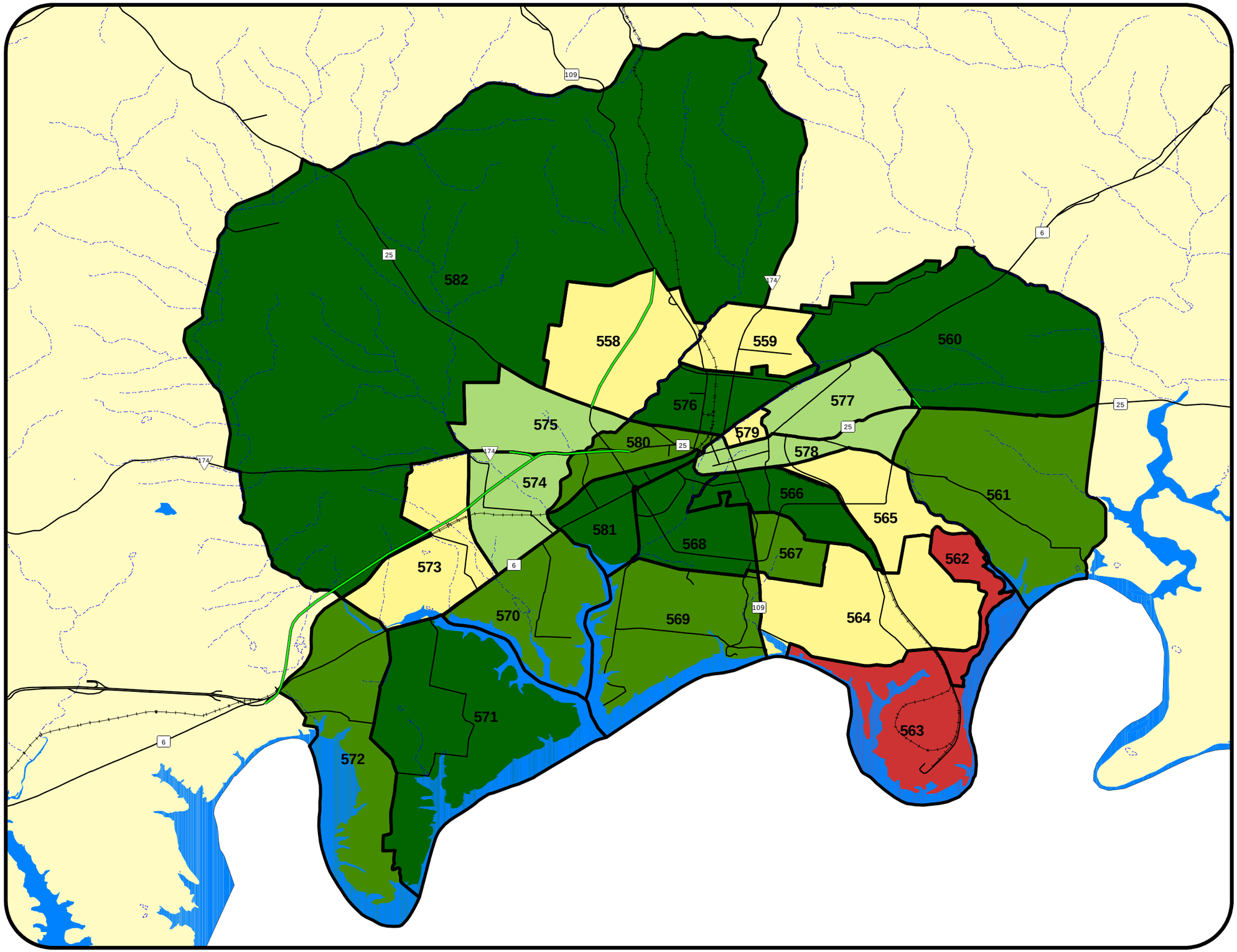

N

LEGEND

Labor Force (People)

- 0 - 300
- 300 - 600
- 600 - 900
- 900 - 1200
- 1200 +
- Committed Roads
- Streets
- Railroad
- Streams

Figure No. 5.2
Summary of 2020
Labor Force
by TAZ

Gallatin Major Thoroughfare Plan

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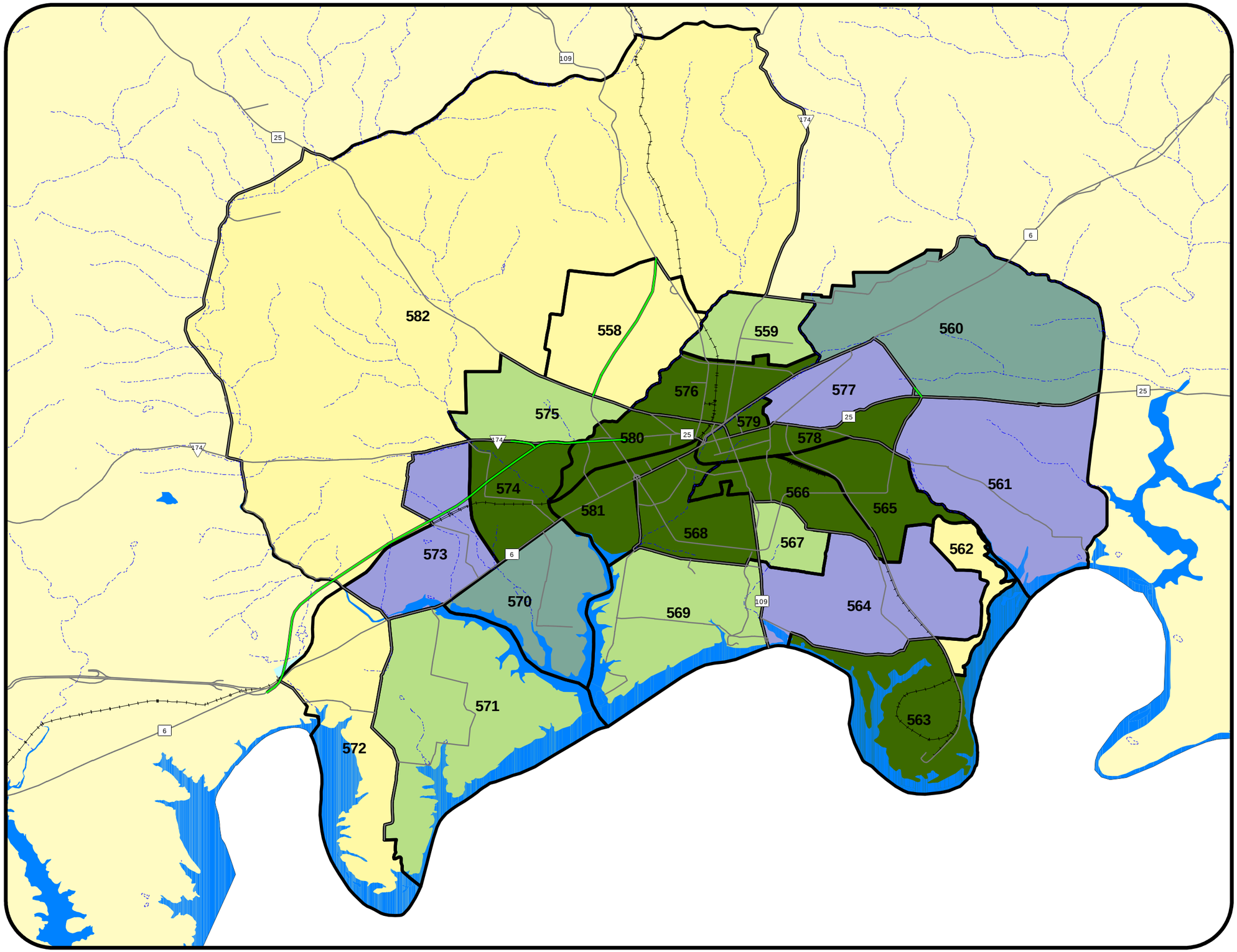

Figure No. 5.3
Summary of 2020 Employment by TAZ

Gallatin Major Thoroughfare Plan

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5.3 Existing Plus Committed Transportation System

The future transportation network was compiled by adding all committed projects to those already included in the 1996 existing conditions. Three committed projects were identified within the study area (See Table 5.2). One, the realignment of Airport Road at State Route 25 (Hartsville Pike), will have a beneficial impact on traffic flow through this intersection, but its impact on the transportation network on a regional level will be negligible. The other two projects will have definite implications: the extension of State Route 109 Bypass to Old Highway 109 (currently open) and the proposed State Route 386 (Vietnam Veterans Boulevard) extension. Using existing plus committed transportation network and future land use characteristics, the demand model was used to predict traffic volumes for the year 2020. Figure 5.4 shows the existing plus committed transportation system.

5.4 Daily Traffic Volumes on the Existing Plus Committed System

The methodology for analyzing the network under future conditions follows the existing condition's analysis. The predicted volumes, shown in Figure 5.5, were assigned to the network by the transportation model. Using the Levels of Service analysis method, the roadway network's future performance was analyzed. General practice states that a LOS of "D" or higher provides acceptable operation. However, this designation can change depending on the public's expectation for a given area. For Gallatin a level of service of "D" will be considered the minimum acceptable level of service.

Figure 5.6 graphically portrays the network's capacity conditions for the existing plus committed system. The analysis projected that several of Gallatin's major arterials will operate below desirable LOS limits (LOS "E" or "F").

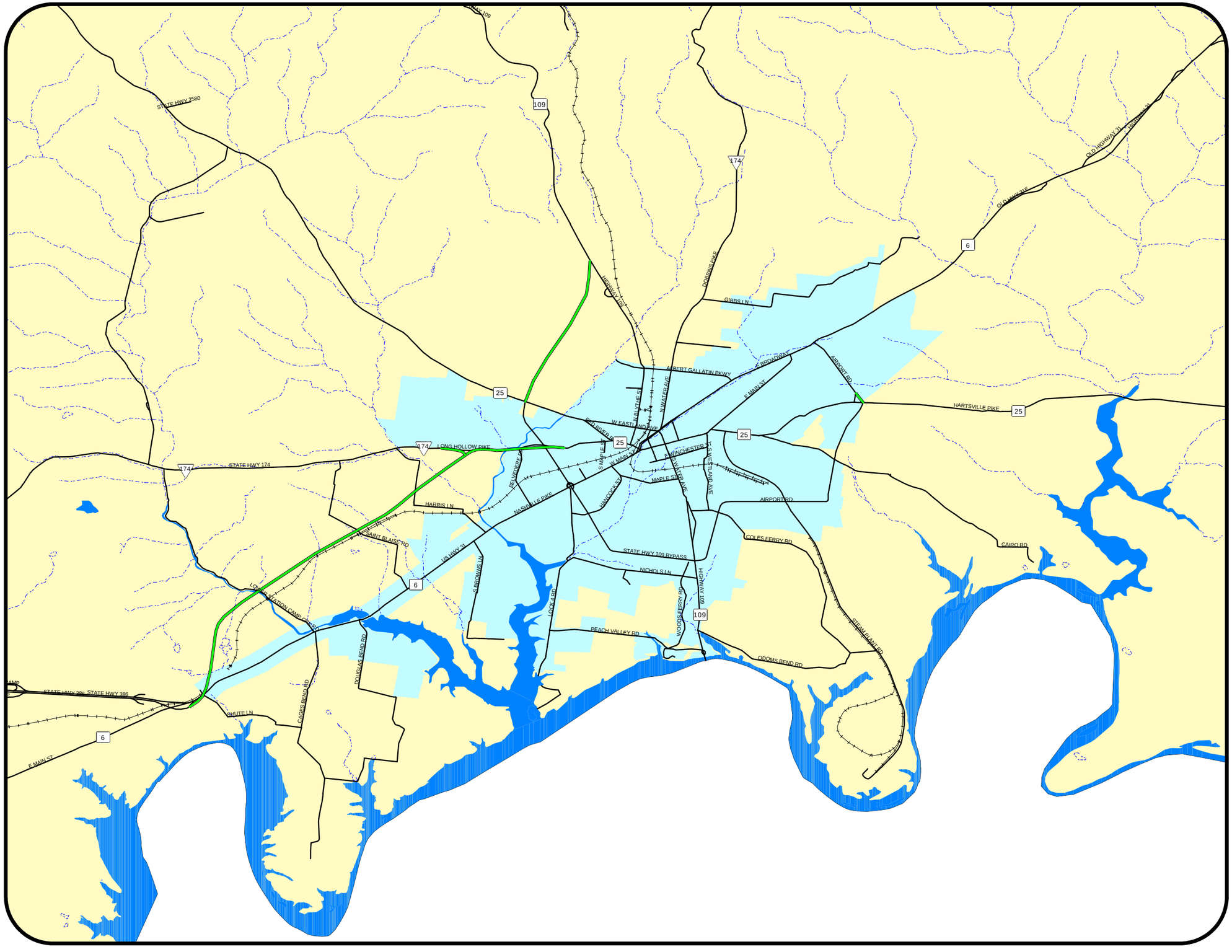
- State Route 6 (US 31E, Nashville Pike) from Shute Lane to Lock Four Road
- State Route 6 (US 31E, Nashville Pike) from Lock Four Road to Maple Street
- State Route 6 (US 31E, West Main Street) from Maple Street to West Broadway
- State Route 6 (US 31E, West Broadway) from West Main Street to Water Street
- State Route 6 (US 31E, East Broadway) from Airport Road to City Limits
- State Route 109 from City Limits to Airport Road
- North Water Street from East Main Street to Dobbins Pike
- Lock Four Road from Belvedere Drive to State Route 6 (US 31E, Nashville Pike)
- State Route 386 (Vietnam Veterans Parkway) from Long Hollow Pike to State Route 109
- Long Hollow Pike from State Route 109 to State Route 25 (Red River Road)
- State Route 25 (Red River Road) from Long Hollow Pike to State Route 6 (Main Street

TABLE 5.2

COMMITTED TRANSPORTATION IMPROVEMENTS
GALLATIN MAJOR THOROUGHFARE PLAN

PROJECT / ROUTE	FROM / TO	IMPROVEMENT
Airport Road	Intersection with SR 25 (Hartsville Pike)	Intersection Improvement (Realignment of Airport Road)
SR 109	SR 25 (Red River Road) to Old Highway 109	4-lane Construction
SR 386	Current terminus (SR 6) to SR 109	4-lane Construction

Source: TIP, FY 1997 through FY 2000, 1998



N

LEGEND

- Traffic Analysis Zones
- Future Roads
- Streets
- Railroad
- Streams
- City Boundaries

Figure No. 5.4
Committed Transportation Improvements

Gallatin Major Thoroughfare Plan

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N

LEGEND

- 1250 — Traffic Volumes
- Streets
- Railroad
- Streams
- City Boundaries

Figure No. 5.5
2020 Estimated ADT
Traffic Volumes

Gallatin Major Thoroughfare Plan

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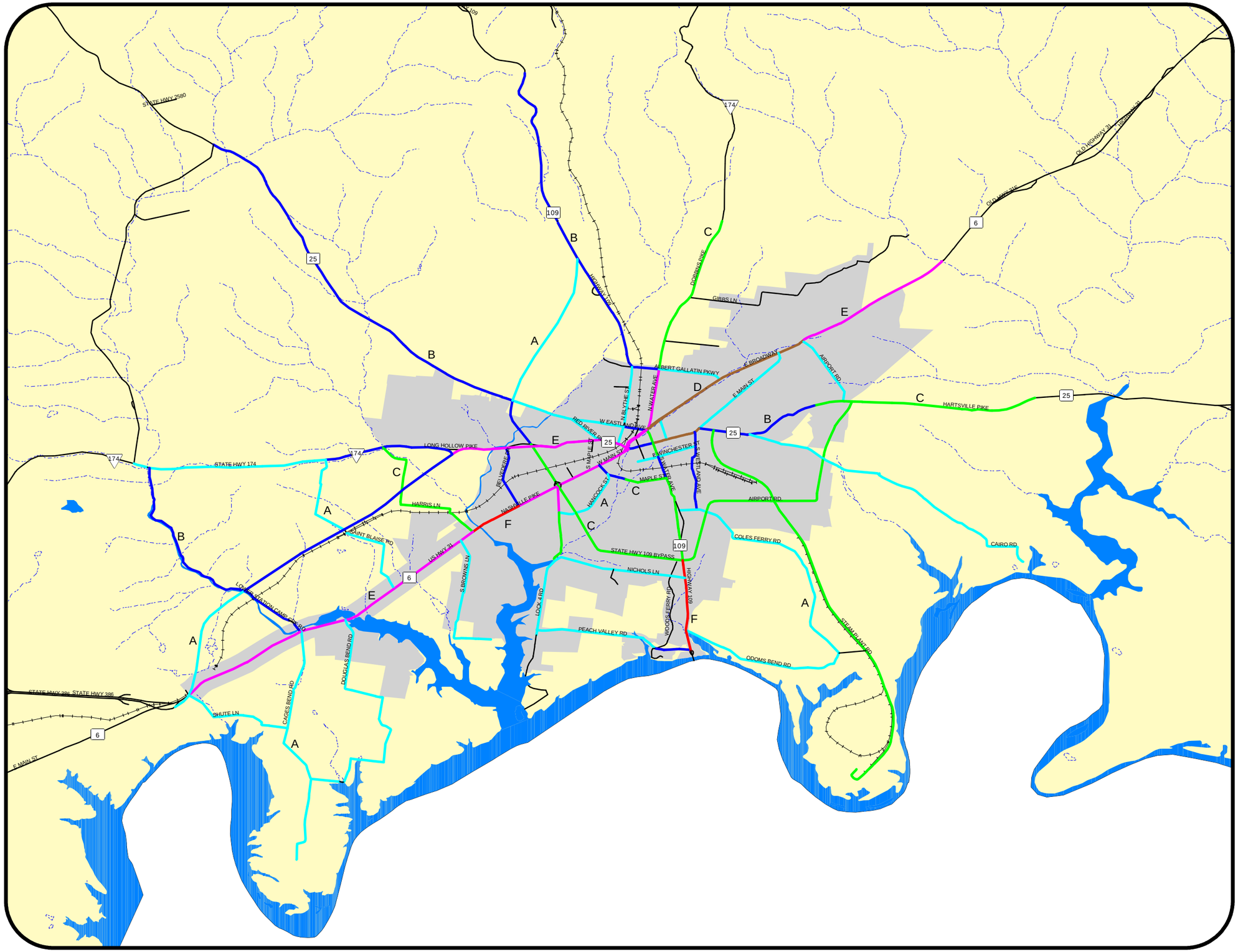
DOWNTOWN GALLATIN



N

LEGEND

LOS Assignments

- A
- B
- C
- D
- E
- F
- Streets
- Railroad
- Streams
- City Boundaries

Figure No. 5.6
2020 Existing + Committed System Levels of Service

Gallatin Major Thoroughfare Plan

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In addition, the following routes, although within recommended levels, are projected to operate at a level of service “D”. This may show that the road may operate near its capacity and experience some periods of extended congestion.

- State Route 6 (US 31E, East Broadway) from Water Street to Airport Road
- State Route 25 (East Main Street) from Water Street to Hartsville Pike
- Maple Street (Two-lane section) between Hancock Street and Water Street

These results show that Gallatin’s arterial system should experience the most degradation over the next twenty years. From the existing condition’s analysis, Nashville Pike currently operates at a LOS of “E” during peak periods. So, there is not much change over the course of the study period. The extension of State Route 386 will relieve much of the commuter and “through” demand on Nashville Pike. However, with the commercial uses planned for Nashville Pike, congestion and delay will still be present (as predicted by the demand model). Since the model is only a broad instrument for traffic projections and the 2020 projections are similar to existing volumes, the current Nashville Pike capacity could be acceptable for the future. The LOS “D” and “E” predicted for State Route 6 (Main Street/Broadway) from Maple Street to the City Limits may be a result of the lack of an efficient connector from the northeast to the southwest areas of town. The model showed that North Water Street and State Route 109 south of Airport Road would operate below standards due to the increase in traffic generated by the increase of planned commercial development along both routes. Also, Long Hollow Pike currently does not have the capacity needed to support the demand of trips with destinations to the west of downtown, most notably the proposed State Route 386. The extension of State Route 386 proposes a new five-lane section to be built along the existing alignment of State Route 174 between State Route 109 and the new route. The level of service analysis on the estimated traffic showed that this section would operate at a LOS of “E” by 2020. The analysis also revealed Gallatin’s collector and local streets should continue to operate efficiently. A primary objective of this report will be to maintain these conditions and prevent anticipated arterial congestion from affecting other routes.

Table 5.3 summarizes the existing plus committed transportation network under future (2020) conditions.

TABLE 5.3

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service
Nashville Pike (SR 6)	Shute Lane - Cages Bend Road	5	10'	Yes	33,400	**E**	5	10'	Yes	38,070	**E**
Nashville Pike	Cages Bend - Douglas Bend	5	10'	Yes	31,200	**E**	5	10'	Yes	38,500	**E**
Nashville Pike	Douglas Bend - Harris Lane	5	10'	Yes	32,870	**E**	5	10'	Yes	33,620	**E**
Nashville Pike	Harris Lane - Belvedere Drive	5	10'	Yes	38,500	**F**	5	10'	Yes	43,200	**F**
Nashville Pike	Belvedere Drive - Lock Four Road	5	10'	Yes	42,900	**F**	5	10'	Yes	35,170	**E**
Nashville Pike	Lock Four Road - Maple Street	5	6'	Yes	25,570	D	5	6'	Yes	29,170	**E**
West Main Street	Maple Street - West Broadway	5	6'	Yes	29,600	**E**	5	6'	Yes	33,200	**E**
West Main Street	West Broadway - Hickory Avenue	4	—	Yes	10,100	B	4	—	Yes	11,600	B
West Main Street	Hickory Avenue - Water Street	3	—	Yes	10,100	B	3	—	Yes	11,600	B
West Broadway	West Main Street - Water Street	4	4'	Yes	18,380	C	4	4'	Yes	25,600	**E**
East Broadway	Water Street - Joann Street	4	4'	Yes	18,800	C	4	4'	Yes	21,900	D
East Broadway	Joann Street - Airport Road	3	4'	Yes	11,700	B	3	4'	Yes	15,360	D
East Broadway	Airport - City Limits	2	10'	Yes	10,400	C	2	10'	Yes	14,900	**E**
Highway 109	City Limits - Nichols Lane	2	2'	Yes	19,500	**F**	2	2'	Yes	23,600	**F**
Highway 109	Nichols Lane - Airport Road	2	4'	Yes	21,000	**F**	2	4'	Yes	25,760	**F**
Highway 109 (Bypass)	Airport Road - Nashville Pike	4	10'	Yes	9,400	B	4	10'	Yes	17,900	C
Highway 109 (Bypass)	Nashville Pike - Long Hollow Pike	4	10'	Yes	6,800	A	4	10'	Yes	18,400	C
Highway 109 (Bypass)	Long Hollow Pike - Red River Road	4	10'	Yes	3,200	A	4	10'	Yes	15,400	B
Highway 109 (Bypass)	Red River Road - Old Highway 109						4	10'	Yes	8,300	A
South Water Street	Broadway - Main Street	2	—	Yes	10,770	C	2	—	Yes	11,020	C
South Water Street	Main Street - Bledsoe Street	3	—	Yes	14,100	C	3	—	Yes	13,500	C
South Water Street	Bledsoe Street - Factory Lane	2	2'	Yes	13,100	C	2	2'	Yes	11,020	C
South Water Street	Factory Lane - Hite Street	3	4'	Yes	10,960	B	3	4'	Yes	9,900	B
South Water Street	Hite Street - Highway 109	2	4'	Yes	9,600	C	2	4'	Yes	9,570	C
East Main Street	Water Street - Hartsville Pike	3	—	Yes	14,400	C	3	—	Yes	17,060	D
East Main Street	Hartsville Pike - East Broadway	2	2'	Yes	2,600	A	2	2'	Yes	3,020	A
Hartsville Pike	Airport Road - Woodlands Drive	2	6'	Yes	9,650	C	2	6'	Yes	10,640	C

Source: Neel-Schaffer, 1999

TABLE 5.3 (continued)
GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service
Hartsville Pike	Woodlands Drive - East of Center Drive	3	4'	Yes	7,500	A	3	4'	Yes	8,250	B
Hartsville Pike	East of Center Drive - East Main Street	5	2'	Yes	11,100	A	5	2'	Yes	13,950	B
Long Hollow Pike	Buckingham Boulevard - Proposed Vietnam Veterans Blvd. Ext.	2	2'	Yes	5,860	A	2	2'	Yes	7,650	B
Long Hollow Pike	Prop Vietnam Veterans Blvd. Ext. - Highway 109	2	2'	Yes	8,030	B	5	10'	Yes	28,400	**E**
Long Hollow Pike	Highway 109 - Red River Road	2	4'	Yes	7,600	B	2	4'	Yes	15,500	**E**
Red River Road	Station Camp Creek Road - Highway 109	2	2'	Yes	8,600	B	2	2'	Yes	10,960	B
Red River Road	Highway 109 - Long Hollow Pike	2	2'	Yes	7,400	B	2	2'	Yes	6,200	A
Red River Road	Long Hollow Pike - Main Street	2	2'	Yes	11,600	C	2	2'	Yes	17,700	**E**
Airport Road	Highway 109 - Hartsville Pike	2	6'	Yes	8,200	B	2	6'	Yes	11,000	C
Airport Road	Hartsville Pike - East Broadway	2	6'	Yes	3,800	A	2	6'	Yes	6,200	A
Dobbins Pike	North Water Street - City Limits	2	4'	Yes	5,800	A	2	4'	Yes	12,330	C
North Water Street	East Main Street - Dobbins Pike	2	—	Yes	9,600	C	2	—	Yes	14,100	**E**
North Water Street	Dobbins Pike - City Limits	2	2'	Yes	7,600	B	2	2'	Yes	8,370	B
Albert Gallatin Avenue	East Broadway - Dobbins Pike	3	2'	Yes	3,380	A	3	2'	Yes	6,440	A
Station Camp Creek Road	Nashville Pike - City Limits	(22')	2'	No	1,690	A	(22')	2'	No	5,300	B
Cages Bend Road	Nashville Pike - City Limits	2	—	Yes	1,700	A	2	—	Yes	2,900	A
Douglas Bend Road	Nashville Pike - Lori Lee Drive	2	—	Yes	2,500	A	2	—	Yes	4,500	A
Nichols Lane	Lock Four Road - Highway 109	2	2'	Yes	2,500	A	2	2'	Yes	4,500	A
Lock Four Road	Nashville Pike - Belvedere Drive	2	—	Yes	4,100	B	2	—	Yes	12,350	**E**
Lock Four Road	Belvedere Drive - Nichols Lane	2	5'	Yes	3,030	A	2	5'	Yes	7,700	C
Lock Four Road	Nichols Lane - City Limits	2	1'	Yes	1,670	A	2	1'	Yes	4,630	A
Belvedere Street	Long Hollow Pike - Nashville Pike	2	2'	Yes	4,200	A	2	2'	Yes	7,300	B
Hancock Street	Lock Four Road - Highway 109	(24')	—	No	2,780	A	(24')	—	No	2,560	A
Hancock Street	Highway 109 - Greenwave drive	5	—	Yes	3,800	A	5	—	Yes	5,600	A
Hancock Street	Greenwave Drive - Maple Street	4	—	Yes	3,800	A	4	—	Yes	5,600	A
Maple Street	Nashville Pike - Hancock Street	5	—	Yes	10,200	A	5	—	Yes	12,460	B
Maple Street	Hancock Street - Louise Street	3	—	Yes	9,600	C	3	—	Yes	9,100	B
Maple Street	Louis Street - South Water Street	2	—	Yes	9,600	D	2	—	Yes	9,100	D

Source: Neel-Schaffer, 1999

TABLE 5.3 (continued)

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED				
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service
Westland Avenue	East Main Street - Richland Circle	2	2'	Yes	3,230	A	2	2'	Yes	6,770	B
Westland Avenue	Richland Circle - Coles Ferry Road	(24')	2'	No	3,230	A	(24')	2'	No	6,770	B
Coles Ferry Road	South Water Street - Airport Road	2	—	Yes	3,300	A	2	—	Yes	3,920	A
Coles Ferry Road	Airport Road - City Limits	(22')	—	No	2,300	A	(22')	—	No	4,350	A
Winchester Street	South Locust - Westland Avenue	(24')	—	No	1,400	A	(24')	—	No	2,290	A
College Avenue	East Main Street - East Broadway	(22')	—	No	2,700	A	(22')	—	No	3,050	A
West Eastland Avenue	Broadway - Blythe Street	2	2'	Yes	5,600	B	2	2'	Yes	5,800	B
West Eastland Avenue	Blythe Street - Roosevelt Circle	2	—	Yes	5,600	B	2	—	Yes	5,800	B
West Eastland Avenue	Roosevelt Circle - Red River Road	(24')	—	No	4,100	A	(24')	—	No	2,200	A
Blythe Street	Red River Road - Pace Street	2	2'	Yes	7,200	B	2	2'	Yes	4,960	A
Blythe Street	Pace Street - North Water Street	(24')	—	No	7,200	B	(24')	—	No	4,960	A
Shute Lane	Nashville Pike - Cages Bend Road	2	—	Yes	1,530	A	2	—	Yes	1,800	A
Peach Valley Road	Highway 109 - Cherokee Road	2	2'	Yes	1,410	A	2	2'	Yes	5,600	B
Peach Valley Road	Cherokee Road - Lock Four Road	(22')	—	No	1,710	A	(22')	—	No	3,560	A
Brown's Lane	Nashville Pike - City Limits	2 (Divided)	—	No	1,010	A	2 (Divided)	—	No	1,850	A
Steam Plant Road	Hartsville Pike - City Limits	2	0'-3'	Yes	3,600	A	2	0'-3'	Yes	9,660	C
Cairo Road	Airport Road -Hartsville Pike	2	—	Yes	1,600	A	2	—	Yes	2,190	A
Odom's Bend Road	Highway 109 - City Limits	2	2'	Yes	1,100	A	2	2'	Yes	1,120	A
Harris Lane	Nashville Pike	(20')	—	No	3,900	A	(20')	—	No	8,200	C
St Blaise Road	Nashville Pike - Long Hollow Pike	(20')	—	No	2,660	A	(20')	—	No	1,600	A
Vietnam Veterans Boulevard	SR 6 - Station Camp Creek Road						4	10'	Yes	19,900	A
Vietnam Veterans Boulevard	Station Camp Creek Road - Harris Lane						4	10'	Yes	24,200	B
Vietnam Veterans Boulevard	Harris Lane - Long Hollow Pike						4	10'	Yes	22,200	B

Source: Neel-Schaffer, 1999

6.0 RECOMMENDATIONS FOR THE CITY OF GALLATIN

6.1 Introduction

The analysis of the existing plus committed conditions revealed deficiencies in the transportation system network. The areas of concern involved existing roadway capacity problems, anticipated future vehicular demand created by economic development and existing roadway characteristics that do not meet minimum design criteria. The analysis showed that improvements to the transportation system are needed to ensure efficient and safe operation into the future.

The existing plus committed transportation system was evaluated and, with input from City officials, potential improvements were derived. The first task was to develop possible solutions to existing capacity problems. These locations were identified as operating at a level of service of "E" or "F" under the 2020 existing plus committed system. Projects included in the MPO's latest Long Range Transportation Plan for the City of Gallatin have been included in this also. Next, based on anticipated residential, commercial, and industrial growth, recommended improvements have been derived to alleviate future growth. Also, improvements to existing routes have been suggested to upgrade those with below standard design elements, i.e. lane and shoulder widths.

6.2 Proposed Roadway Cross-Sections

In an attempt to promote uniformity between a route's local functional classification and its roadway geometrics, standard roadway cross-sections have been developed according to roadway classification. For instance, an arterial road's primary role is to provide a high level of mobility between distant locations. If the arterial does not conform to its recommended design standards, the route will not operate efficiently. This often results in poor operation, increased congestion, and decrease in safety. This approach will allow for a uniformed methodology in design practice and promote satisfactory roadway operation. Where applicable, these design elements include lane widths, the number of lanes, sidewalk widths, shoulder and median widths, and minimum required right-of-way (See Table 6.1). Depending on vehicular demand, right-of-way limitations and other factors, six standard cross-sections have been developed for major arterials, four for minor arterials, and three for collector routes. For example, right-of-way needs vary among the different cross-sections: a 5-lane major arterial requires 84' while a 2-lane urban collector has a minimum right-of-way of 50'. Within each designation, the different cross-sections are interchangeable depending on traffic volumes or specific design choices. These cross-sections are consistent with those established throughout the region. Figures 6.1a-c illustrate the standardized cross-sections.

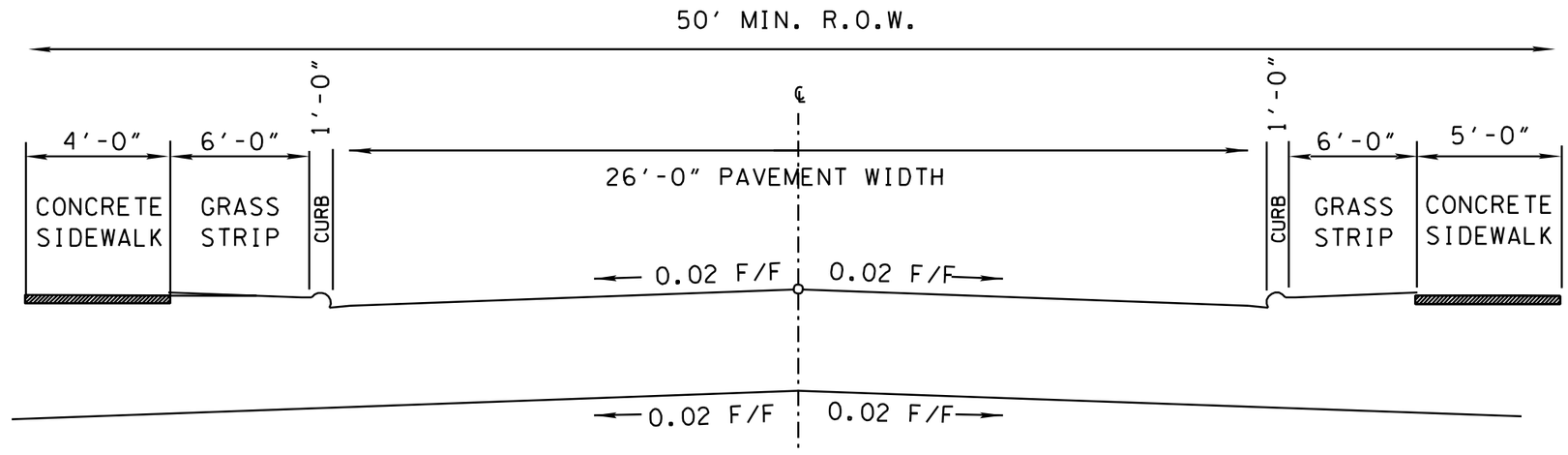
TABLE 6.1

DESIGN ELEMENTS OF RECOMMENDED ROADWAY CLASSIFICATIONS
GALLATIN MAJOR THOROUGHFARE PLAN

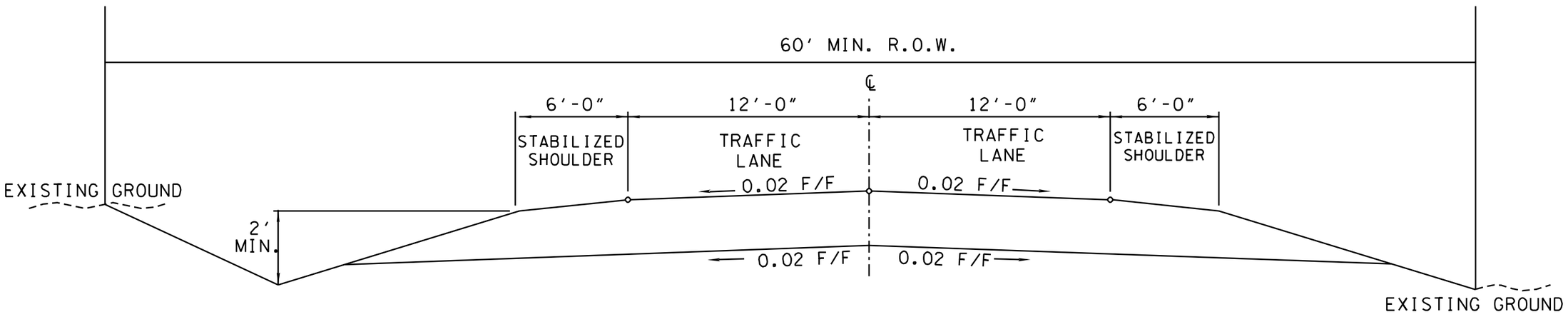
ELEMENTS	MAJOR ARTERIAL			MINOR ARTERIAL				COLLECTOR		LOCAL
Number of Lanes	2	4	5	2	3	4	5	2	3	N/A
Minimum Right-of-Way	60'	64' - 90'	84' - 118'	60'	60'	64' - 70'	84' - 88'	50' - 60'	60'	50'
Median Width	N/A	Variable (0'-20')	12' (Center Turn Lane)	N/A	12' (Center Turn Lane)	Variable (0'-20')	12' (Center Turn Lane)	N/A	12' (Center Turn Lane)	N/A
Shoulder Width	6' - 10'	Variable (0'-10')	Variable (0'-10')	6' - 10'	Variable (0'-10')	Variable (0'-10')	Variable (0'-10')	Variable (0'-10')	Variable (0'-10')	N/A
Sidewalk Width	5' - 8'	5' - 8'	5' - 8'	5' - 8'	5' - 8'	5' - 8'	5' - 8'	5' - 8'	5' - 8'	4' (6' Grass Strip)
Lane Width	12'	12'	12'	12'	12'	12'	12'	12'	12'	26' Pavement

* Utility easement outside R.O.W may be necessary.

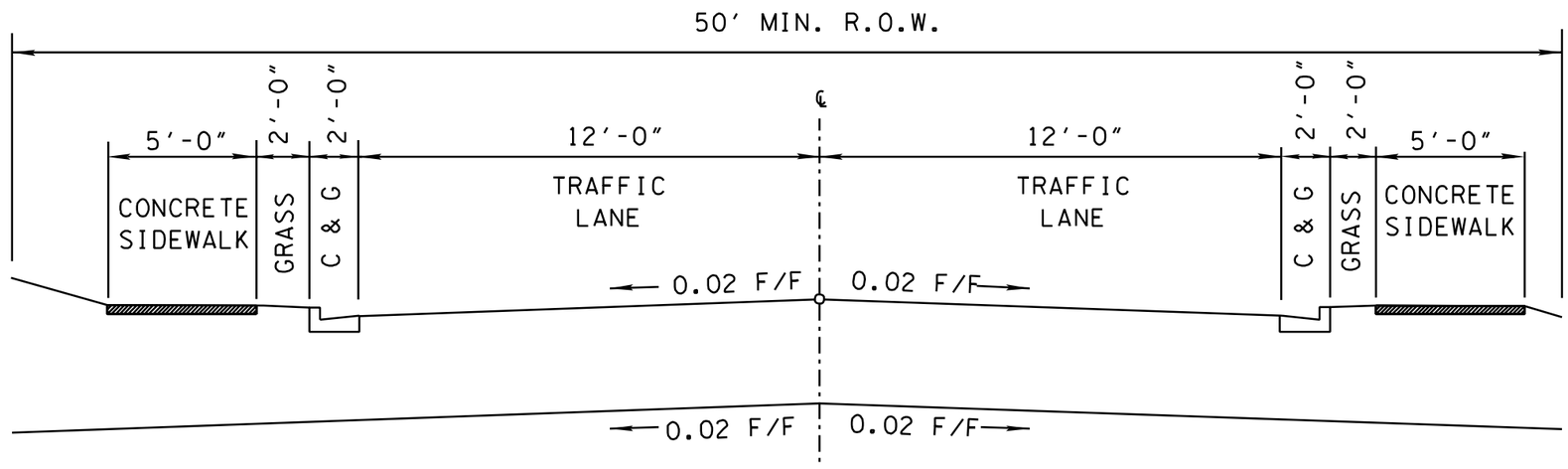
** Please refer to the Gallatin Bicycle and Pedestrian Plan (IDE & Associates, 1999) for specific information on those routes that would require provisions for bike lanes.



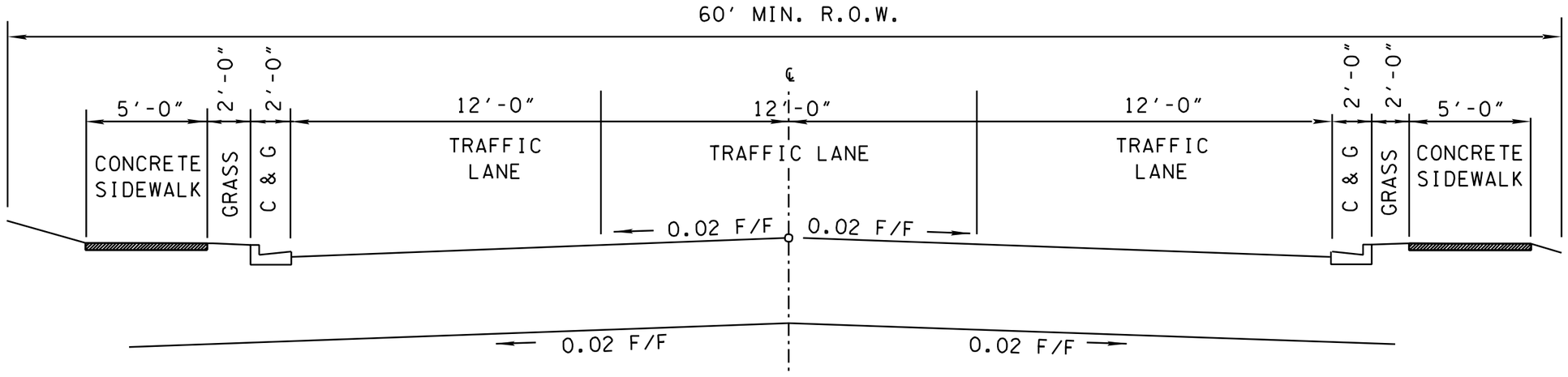
TYPICAL TANGENT SECTION - LOCAL STREET



TYPICAL TANGENT SECTION - 2 LANE COLLECTOR, SWALE

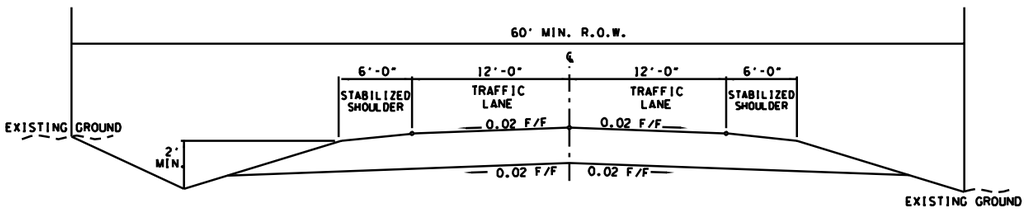


TYPICAL TANGENT SECTION - 2 LANE COLLECTOR, CURB & GUTTER

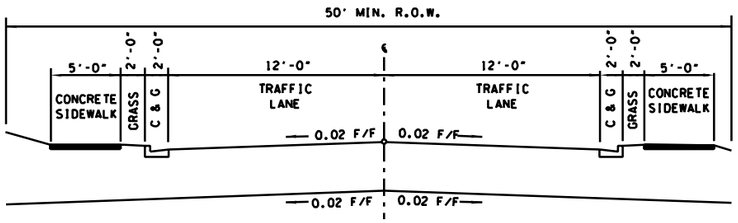


TYPICAL TANGENT SECTION - 3 LANE COLLECTOR, CURB & GUTTER

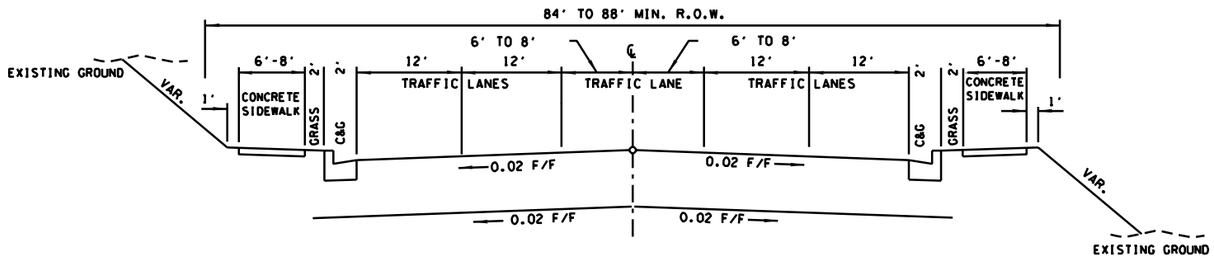
GALLATIN MAJOR THOROUGHFARE PLAN	TYPICAL ROADWAY SECTIONS FOR LOCAL AND COLLECTOR ROUTES	FIGURE 6.1 A
NEEL-SCHAFFER, INC. ENGINEERS • PLANNERS NASHVILLE, TENNESSEE		



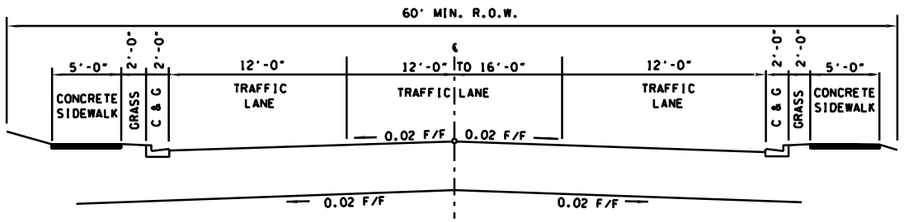
TYPICAL TANGENT SECTION - 2 LANE MINOR ARTERIAL, SWALE



TYPICAL TANGENT SECTION - 2 LANE MINOR ARTERIAL, CURB & GUTTER

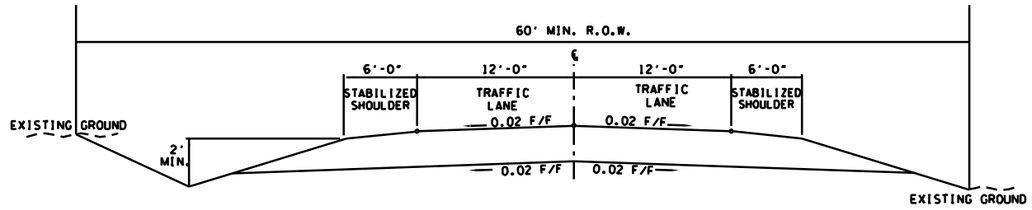


TYPICAL TANGENT SECTION - 5 LANE MINOR ARTERIAL, CURB & GUTTER

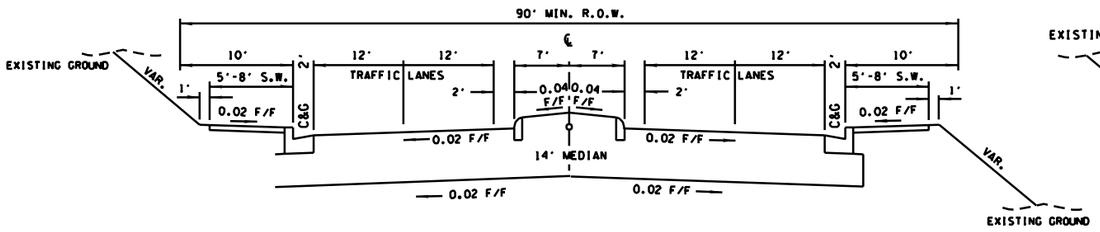


TYPICAL TANGENT SECTION - 3 LANE MINOR ARTERIAL, CURB & GUTTER

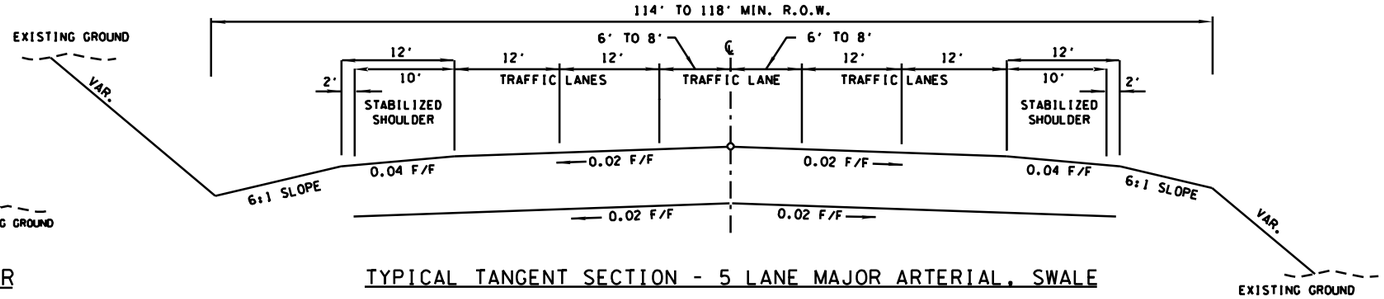
GALLATIN MAJOR THOROUGHFARE PLAN NEEL-SCHAFFER, INC. ENGINEERS • PLANNERS NASHVILLE, TENNESSEE	TYPICAL ROADWAY SECTIONS FOR MINOR ARTERIAL ROUTES	FIGURE 6.1 B



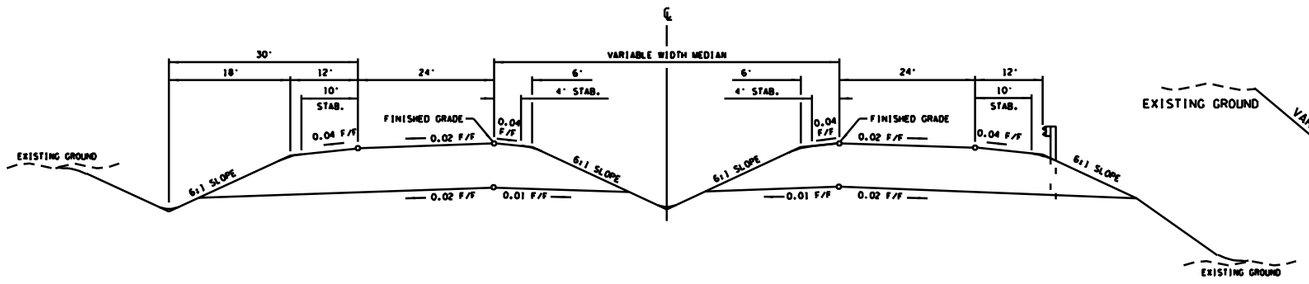
TYPICAL TANGENT SECTION - 2 LANE MAJOR ARTERIAL, SWALE



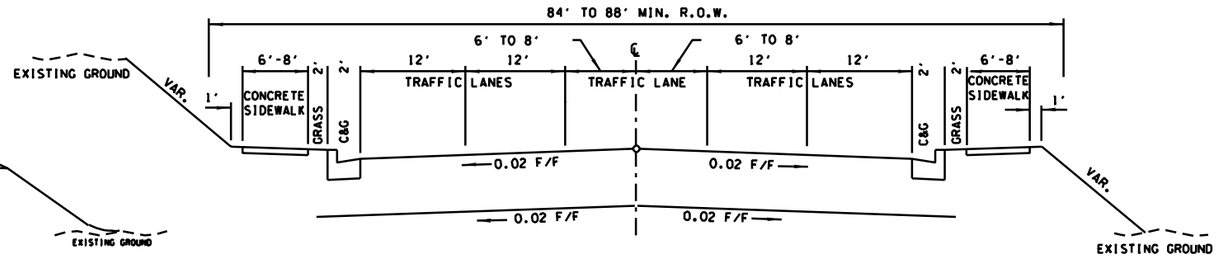
TYPICAL TANGENT SECTION - 4 LANE MAJOR ARTERIAL, CURB & GUTTER



TYPICAL TANGENT SECTION - 5 LANE MAJOR ARTERIAL, SWALE



TYPICAL TANGENT SECTION - 4 LANE DIVIDED PRINCIPAL ARTERIAL, SWALE



TYPICAL TANGENT SECTION - 5 LANE MAJOR ARTERIAL, CURB & GUTTER

CALLATIN MAJOR THOROUGHFARE PLAN NEEL-SCHAFFER, INC. ENGINEERS • PLANNERS NASHVILLE, TENNESSEE	TYPICAL ROADWAY SECTIONS FOR MAJOR ARTERIAL ROUTES 48	FIGURE 6.1 C

6.3 2020 Recommended Transportation System Improvements

The recommended projects were selected through a process of analyzing predicted future conditions, assuming no improvements, and discussions with City officials and other stakeholders. Table 6.2 describes the recommended projects identified for the City of Gallatin. Potential improvements to those routes with unacceptable performance, Level of Service "E" and "F", were identified. The analysis of the 2020 existing plus committed system showed that many of the major arterial routes would likely have insufficient capacity to handle expected demand: Nashville Pike (SR 6), State Route 109 (south of Airport Road) and sections of Long Hollow Pike (SR 171), Red River Road (SR 25), and East Broadway (SR 6).

In addition to supplying capacity improvements, the recommendations include projects that would improve mobility and access. These improvements would improve businesses' and their customers' access to the transportation system. They would also benefit existing routes by supplying additional alternatives for travel. For example, the extension of Hatten Track Road to State Route 109 will provide an alternative route for those traveling around the City. The transportation demand model forecasted that the Hatten Track Road extension would alleviate some congestion along East Broadway by allowing travelers to use SR 109 to get to the southeast side of town. Similarly, the proposed Sumner-Hall Road extension would provide additional access to businesses while giving drivers an alternative to using Nashville Pike (SR 6). The Maple Street extension and the St. Blaise Road/Harris Lane projects would greatly improve mobility between important arterial routes, Long Hollow Pike (SR 171), the proposed Vietnam Veterans Bypass extension (SR 386), and Nashville Pike. These two projects would also serve an additional purpose. Currently, the City of Gallatin's fire department experiences difficulty in responding to emergencies north of the railroad line due to the lack of grade-separated crossings. Both projects would include grade-separations over the railroad. Model analysis showed that the extension of Vietnam Veterans Bypass extension (SR 386) would benefit Nashville Pike (SR 6). However, Nashville Pike is still expected to experience periodic congestion, especially at signalized intersections, due to increased commercial and residential development that is expected to have access from Nashville Pike. In order for Vietnam Veterans Boulevard to serve the volume of traffic intended, users should have direct and multiple access point to the facility. The Tennessee Department of Transportation (TDOT) has proposed to improve Long Hollow Pike to just east of its intersection of State Route 109. East of here, the route would remain a two-lane facility. Under these conditions, drivers would not likely choose Red River Road and Long Hollow Pike to access the Vietnam Veterans Bypass (SR 386) because of the capacity limitations of a two-lane road. This would likely create increased congestion along Nashville Pike as drivers attempt to reach SR 386. For this reason, the study recommends that the improvements to Long Hollow Pike be carried further east, continuing along Red River Road, to the West Broadway (SR 6) intersection. A five-lane route between downtown and the Long Hollow Pike improvements proposed by TDOT would provide a direct, high-capacity route that would divert traffic that would otherwise use Nashville Pike to reach the Bypass (SR 386). Attention should be given to ensuring a smooth, continuous movement between Long Hollow Pike and Red River Road; substandard alignments at this location would greatly reduce overall efficiency. Finally, the Cages Bend Road improvements are intended to address safety issues to provide shoulders and wider lanes. If this project proceeds

beyond the conceptual level or includes more extensive construction, the City of Hendersonville should be included in the planning process because this area is also within their planning area.

In addition to the projects discussed here, projects are individually outlined in Table 6.3. For each improvement, the summary provides a brief project description, estimated project length, traffic volume estimates and estimated project costs. A project map supplements the tabular information by visually illustrating the project location and its limits.

It is important to note that the projects included in the study are only recommendations for the future. This study is the first of many steps that must take place for a project to be implemented. All projects are subject to additional detailed planning and preliminary design studies. However, desired transportation improvements need to be identified at this point to be carried forward to the next stage of development. This document is a dynamic tool used to draft potential transportation projects. Updates to this study take place every several years. As such, revisions and additions may be made as Gallatin's transportation needs change over time.

TABLE 6.2 RECOMMENDED TRANSPORTATION SYSTEM IMPROVEMENTS
GALLATIN MAJOR THOROUGHFARE PLAN

ROUTE IMPROVEMENT	FROM/TO	CROSS SECTION	FEDERAL AID FUNCTIONAL CLASSIFICATION	LOCAL ROUTE CLASSIFICATION
Long Hollow Pike (SR 174)	SR 109 / Red River Road (SR 25)	5-Lane, Curb and Gutter	Principal Arterial	Major Arterial
Red River Road (SR 25)	Long Hollow Pike (SR 174) / Broadway (SR 6, US 31E)	5-Lane, Curb and Gutter	Principal Arterial	Major Arterial
SR 109 North	Old Highway 109 / Urban Growth Boundary	4-Lane Divided	Principal Arterial	Major Arterial
SR 109 South	Southern Urban Growth Boundary / Airport Road	5-Lane, Curb and Gutter	Principal Arterial	Major Arterial
East Broadway (SR 6, US 31E)	Airport Road / Urban Growth Boundary	3-Lane, Swale	Principal Arterial	Major Arterial
Hatten Track Lane Extension	SR 109 / Blythe Street	3-Lane, Curb and Gutter/ Swale	Urban Collector	Minor Arterial
Hatten Track Lane Extension	Blythe Street / North Water Avenue	5-Lane, Curb and Gutter	Urban Collector	Minor Arterial
North Water Street	East Broadway / Dobbins Pike (SR 174)	3-Lane, Curb and Gutter	Minor Arterial	Minor Arterial
St. Blaise Road - Harris Lane Extension	Nashville Pike (SR 6, US 31E) / Long Hollow Pike (SR 174)	5-Lane, Swale	Urban Collector	Major Collector
Maple Street Extension	Nashville Pike (SR 6, US 31E) / Long Hollow Pike (SR 174)	5-Lane, Curb and Gutter	Urban Collector	Minor Arterial
Belvedere Drive	Nashville Pike (SR 6, US 31E) / Long Hollow Pike (SR 174)	3-Lane, Curb and Gutter	Urban Collector	Major Collector
Sumner-Hall Extension	Maple Street Extension / St. Blaise Road	3-Lane, Curb and Gutter	Urban Collector	Major Collector
Airport Road Extension	East Broadway (SR 6, US 31E) / SR 109	2-Lane, Swale	Minor Arterial	Minor Arterial
Greenlea Blvd. Extension	Nashville Pike (SR 6, US 31E) / Browns Lane	2-Lane, Curb and Gutter	Local	Minor Collector
Station Camp Creek Road	Nashville Pike (SR 6, US 31E) / Long Hollow Pike (SR 174)	3-Lane, Swale	Rural Minor Collector	Minor Collector
Cages Bend Road	Urban Growth Boundary / Nashville Pike (SR 6, US 31E)	Retain Existing, Upgrade Road	Rural Minor Collector	Major Collector
Douglas Bend Road	Urban Growth Boundary / Nashville Pike (SR 6, US 31E)	Retain Existing, Upgrade Road	Rural Minor Collector	Major Collector
Browns Lane Extension	Nashville Pike (SR 6, US 31E) / Sumner-Hall Extension	3-Lane, Curb and Gutter	Local	Minor Collector

Source: Neel-Schaffer, 1999

TABLE 6.3a

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	State Route 174 (Long Hollow Pike) Improvement
Project Description:	Expand existing route to 5-12' lanes between State Route 109 and State Route 25 (Red River Road). As part of the SR 386 (Vietnam Veterans Boulevard) extension, Long Hollow Pike will be upgraded to 5 lanes just east of S.R. 109. This project will bring the improvements further east.
Advance Planning Report:	None Completed

Length (miles):	0.95	No. of existing lanes: 2		No. of proposed lanes:	5
1996 ADT:	7,600		2020 Projected ADT:		15,500

PROJECT PHASE	
Prelim. Eng. ($)	$110,000
Right-of-Way ($)	$241,000
Construction ($)	$1,100,000
PROJECT COST ($)	$1,451,000
Potential Funding Sources: State, Local	

PROJECT LOCATION

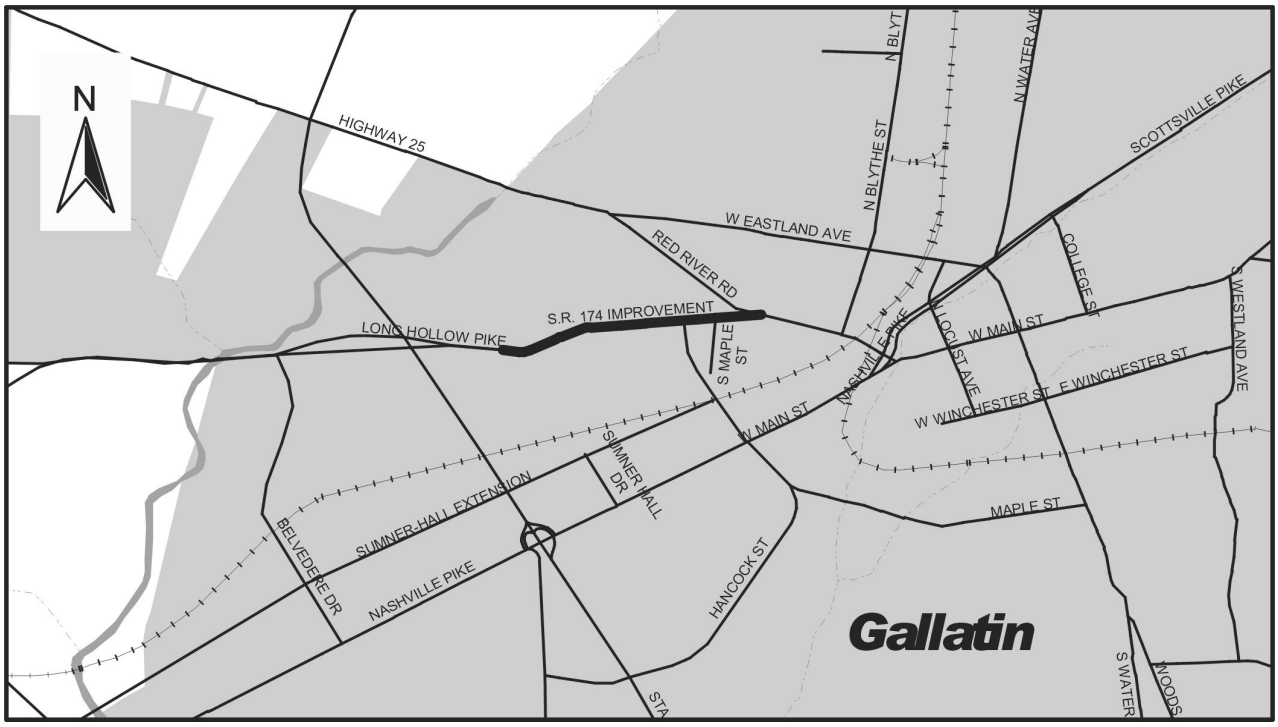


TABLE 6.3b

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	State Route 25 (Red River Road) Improvement
Project Description:	Expand existing route to 5-12' lanes between State Route 174 and State Route 6 (Nashville Pike). With curb and gutter facilities and sidewalks, approximately 85' of total right-of-way will be required. When completed, this project, in conjunction with the SR 174 improvements, will provide an alternative connection to SR 386 and relieve congestion along Nashville Pike.
Advance Planning Report:	None Completed

Length (miles):	0.35	No. of existing lanes: 2		No. of proposed lanes:	5
1996 ADT:	11,500		2020 Projected ADT:		19,700

PROJECT PHASE	
Prelim. Eng. ($)	$69,000
Right-of-Way ($)	$111,000
Construction ($)	$754,000
PROJECT COST ($)	$934,000
Potential Funding Sources: State, Local	

PROJECT LOCATION

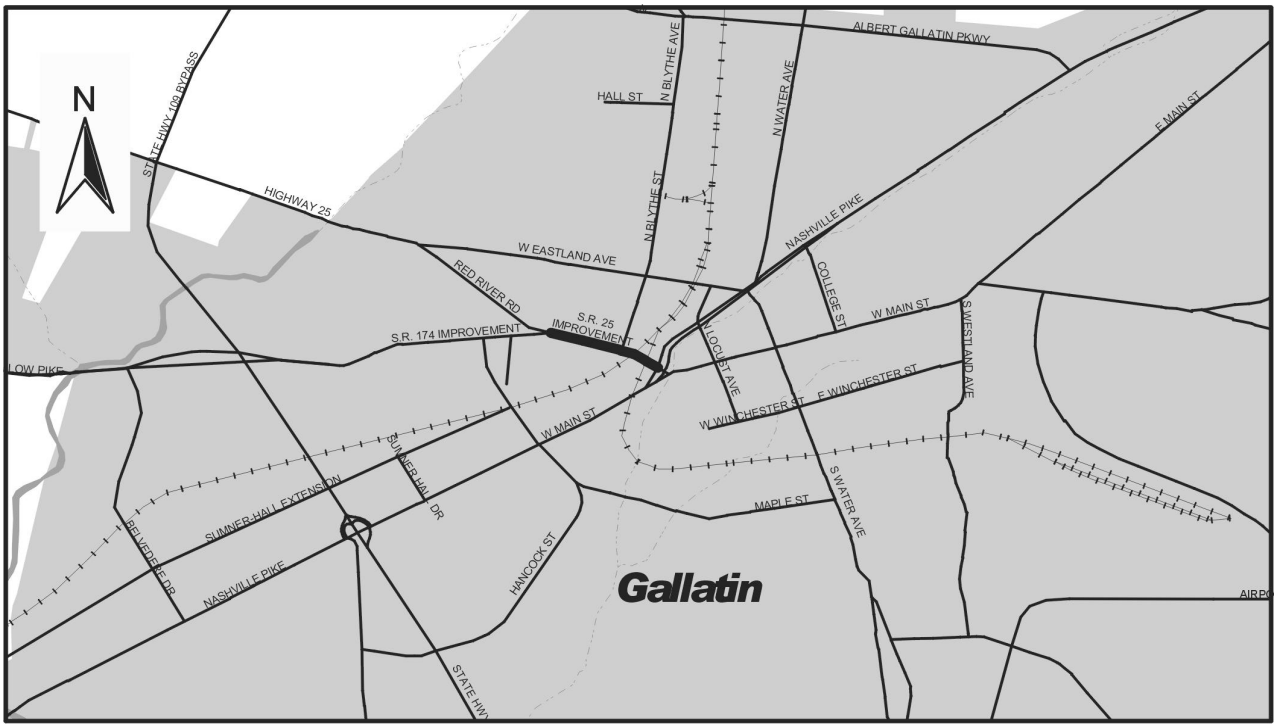


TABLE 6.3c

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	State Route 109 North (To Urban Growth Boundary)
Project Description:	Upgrade existing route to a 4-lane, divided facility. This project is a part of an effort to improve the S.R. 109 corridor between Portland and Gallatin. The scope of this project is limited to Gallatin's Urban Growth Boundary.
Advance Planning Report:	Completed, 1999

Length (miles):	1.50	No. of existing lanes: 2		No. of proposed lanes:	4
1996 ADT:	10,700		2020 Projected ADT:		15,800

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$37,100,000*
Potential Funding Sources: State	

* Cost for entire project to Portland
(Source: Nashville MPO)

PROJECT LOCATION

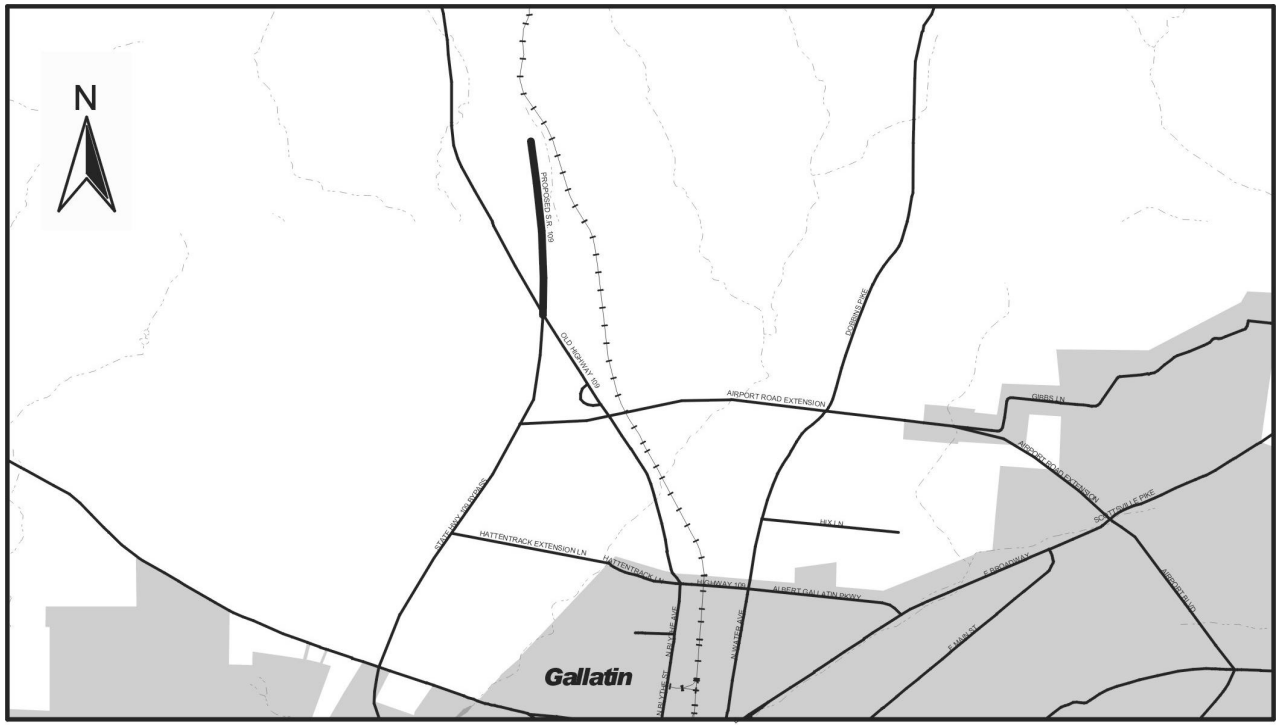


TABLE 6.3d

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	State Route 109 South (To Urban Growth Boundary)
Project Description:	Upgrade existing route to a 5-lane facility. This project is a part of an effort to improve the S.R. 109 corridor between Gallatin and Wilson County. The scope of this project is limited to within Gallatin's Urban Growth Boundary.
Advance Planning Report:	Completed 1997

Length (miles):	1.75	No. of existing lanes: 2		No. of proposed lanes:	5
1996 ADT:	21,000		2020 Projected ADT:		25,750

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$50,600,000*
Potential Funding Sources: State	

* Cost for entire project into Wilson County Line (Source: Nashville MPO)

PROJECT LOCATION

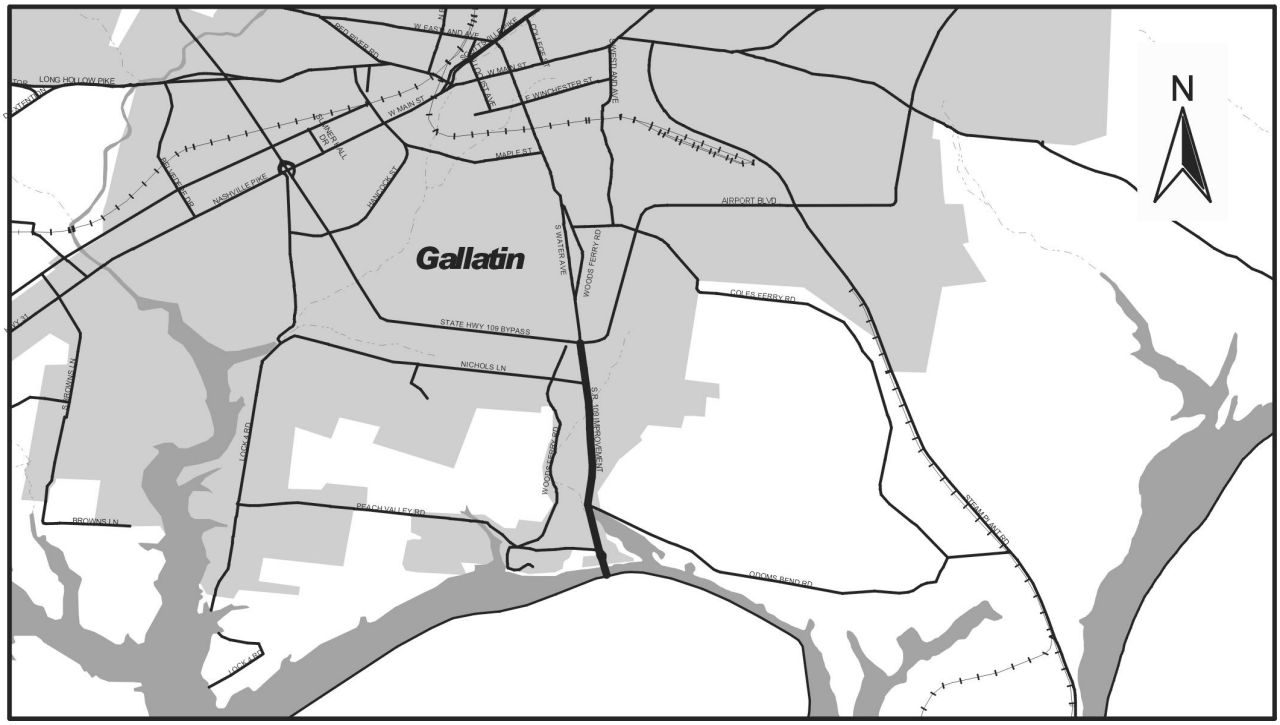


TABLE 6.3e

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	State Route 6 (East Broadway)
Project Description:	Upgrade existing route to a 3-lane, swale section. The project extends the existing 3-lane section at Airport Road to the extent of the Urban Growth Boundary. A minimal amount of right-of-way may be required. The latest TDOT APR does allow for this section of SR 6 to be widened to 5 lanes in the future, if necessary.
Advance Planning Report:	Completed

Length (miles):	1.75	No. of existing lanes: 2		No. of proposed lanes:	3
1996 ADT:	10,400		2020 Projected ADT:		25,750

PROJECT PHASE	
Prelim. Eng. ($)	$79,000
Right-of-Way ($)	$45,000
Construction ($)	$784,000
PROJECT COST ($)	$908,000
Potential Funding Sources: State	

PROJECT LOCATION

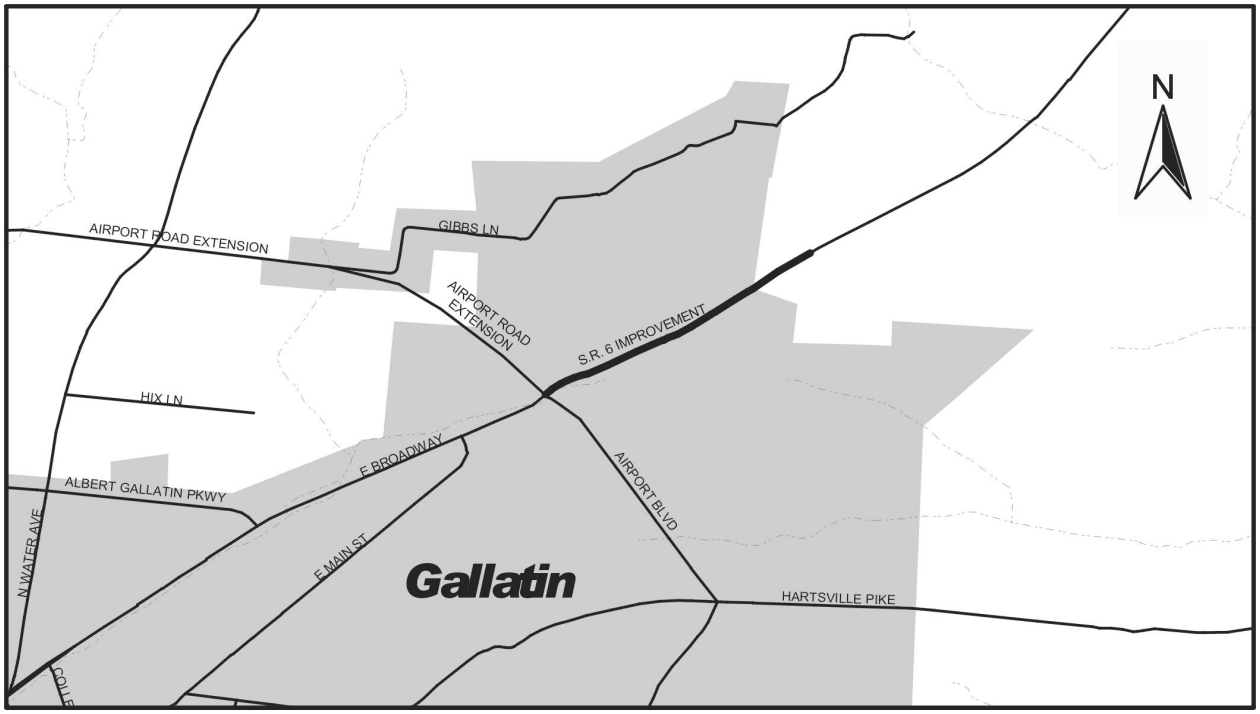


TABLE 6.3f

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Hatten Track Lane Extension
Project Description:	This project will improve North Water Street between State Route 174 (Dobbins Pike) and Blythe Street to 5-12' lanes with curb and gutter. Also, Hatten Track Lane will be extended to State Route 109 with 3-12' lanes and open-ditch drainage.
Advance Planning Report:	Completed, 1999

Length (miles):	1.75	No. of existing lanes: 0/2	No. of proposed lanes: 3/5
1996 ADT:	0 / 7,600	2020 Projected ADT:	4,800 / 9,800

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$6,500,000*
Potential Funding Sources: State, Local	

* Source: IDE & Associates

PROJECT LOCATION

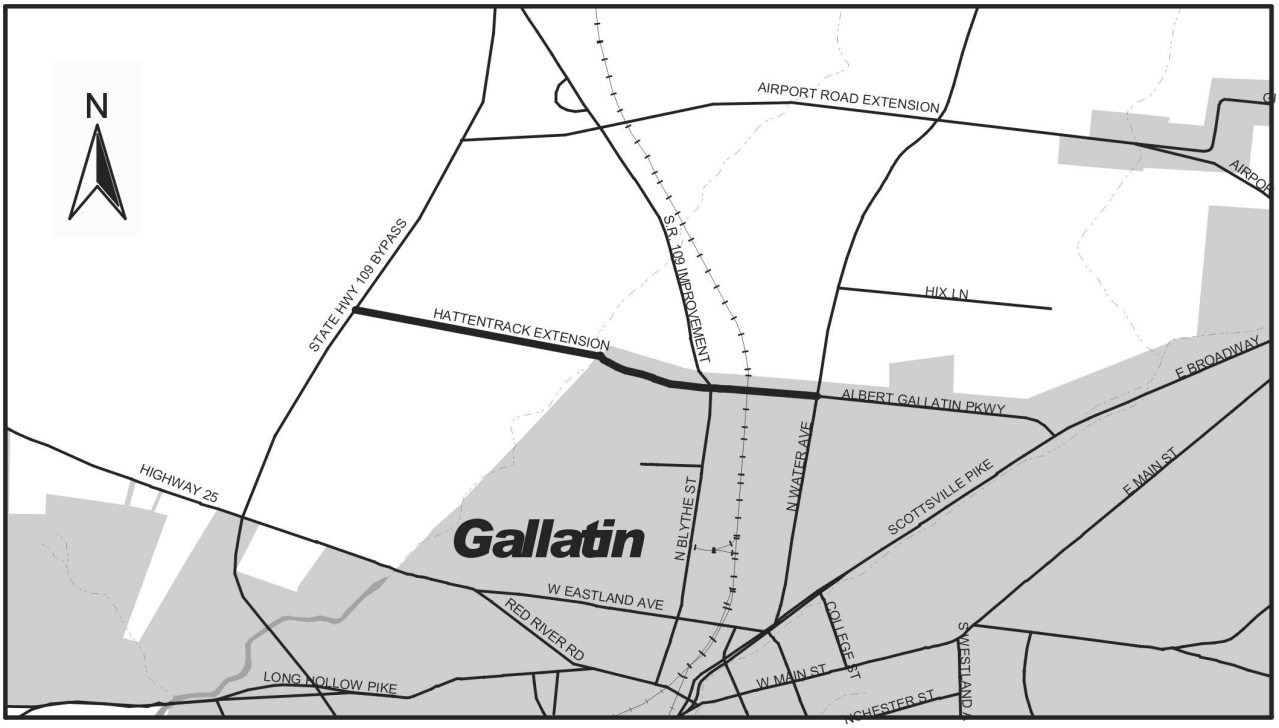


TABLE 6.3g

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	North Water Street Improvements
Project Description:	This project will expand North Water to 3-12' lanes with sidewalks between S.R. 6 (E. Main Street) and S.R. 174 (Dobbins Pike). A limited amount of right-of-way will likely need to be acquired.
Advance Planning Report:	None Completed

Length (miles):	0.90	No. of existing lanes: 2		No. of proposed lanes:	3
1996 ADT:	9,600		2020 Projected ADT:		12,500

PROJECT PHASE	
Prelim. Eng. ($)	$63,000
Right-of-Way ($)	$76,000
Construction ($)	$696,000
PROJECT COST ($)	$835,000
Potential Funding Sources: Local, State	

PROJECT LOCATION

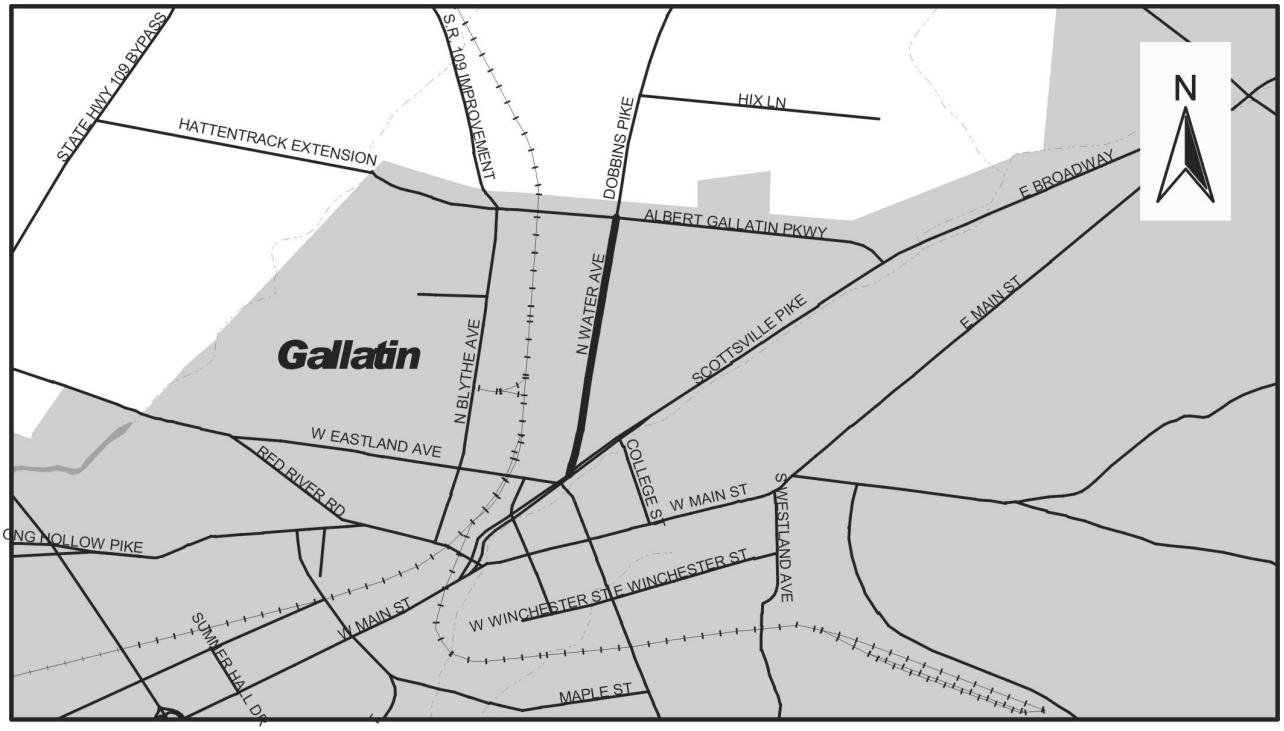


TABLE 6.3h

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	St. Blaise Road-Harris Lane Improvements
Project Description:	Realign St. Blaise Road with Harris Lane to construct a continuous connection between S.R. 6 and S.R. 174 with an interchange at S.R. 386 (Vietnam Veterans Bypass). The route will initially provide 3 lanes but with right-of-way for 5 lanes in the future.
Advance Planning Report:	Completed, 1999

Length (miles):	2.25	No. of existing lanes: 0	No. of proposed lanes: 3/5
1996 ADT:		2020 Projected ADT:	9,800

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$5,310,000*
Potential Funding Sources: State, Local	

* Source: IDE & Associates

PROJECT LOCATION

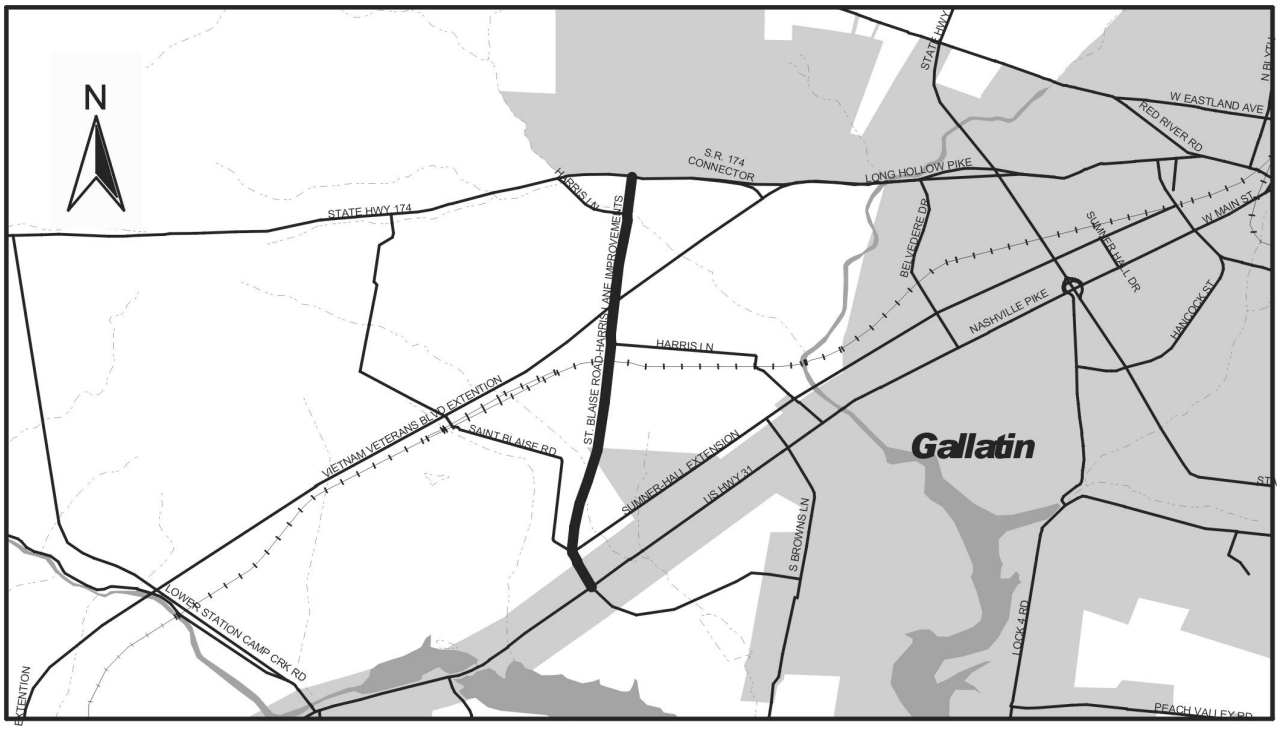


TABLE 6.3i

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Maple Street Extension
Project Description:	Extend Maple Street from its intersection with S.R. 6 (Nashville Pike) to S.R. 174 (Long Hollow Pike). The route will be constructed with a maximum capability to have 5-12' lanes.
Advance Planning Report:	Completed, 1999

Length (miles):	0.45	No. of existing lanes: 0	No. of proposed lanes: 5
1996 ADT:		2020 Projected ADT:	7,300

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$2,900,000*
Potential Funding Sources: State, Local	

* Source: IDE & Associates

PROJECT LOCATION

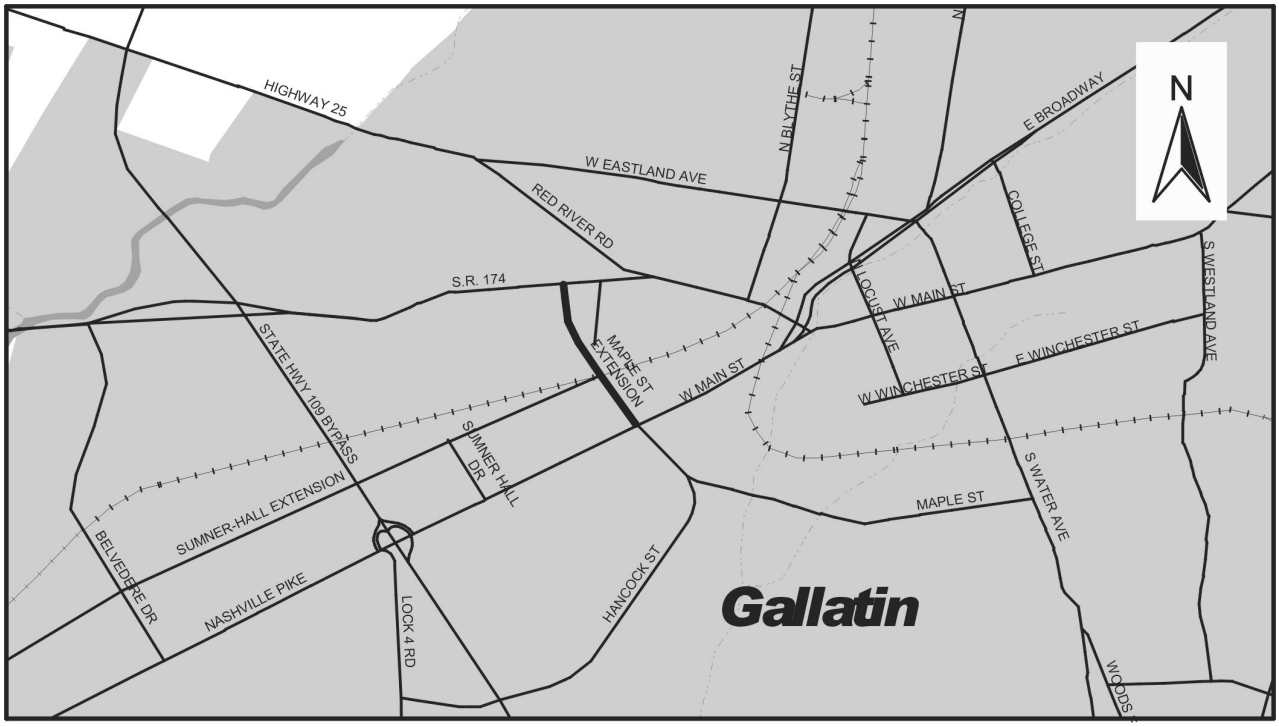


TABLE 6.3j

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Belvedere Drive Improvements
Project Description:	Expand the existing two lane Belvedere Drive to 3-12' lanes from S.R. 174 (Long Hollow Pike) to existing four lane section. A limited amount of right-of-way may need to be acquired.
Advance Planning Report:	None Completed

Length (miles):	0.95	No. of existing lanes: 2		No. of proposed lanes:	3
1996 ADT:	4,200		2020 Projected ADT:		6,500

PROJECT PHASE	
Prelim. Eng. ($)	$71,000
Right-of-Way ($)	$50,000
Construction ($)	$780,000
PROJECT COST ($)	$901,000
Potential Funding Sources: Local, State	

PROJECT LOCATION

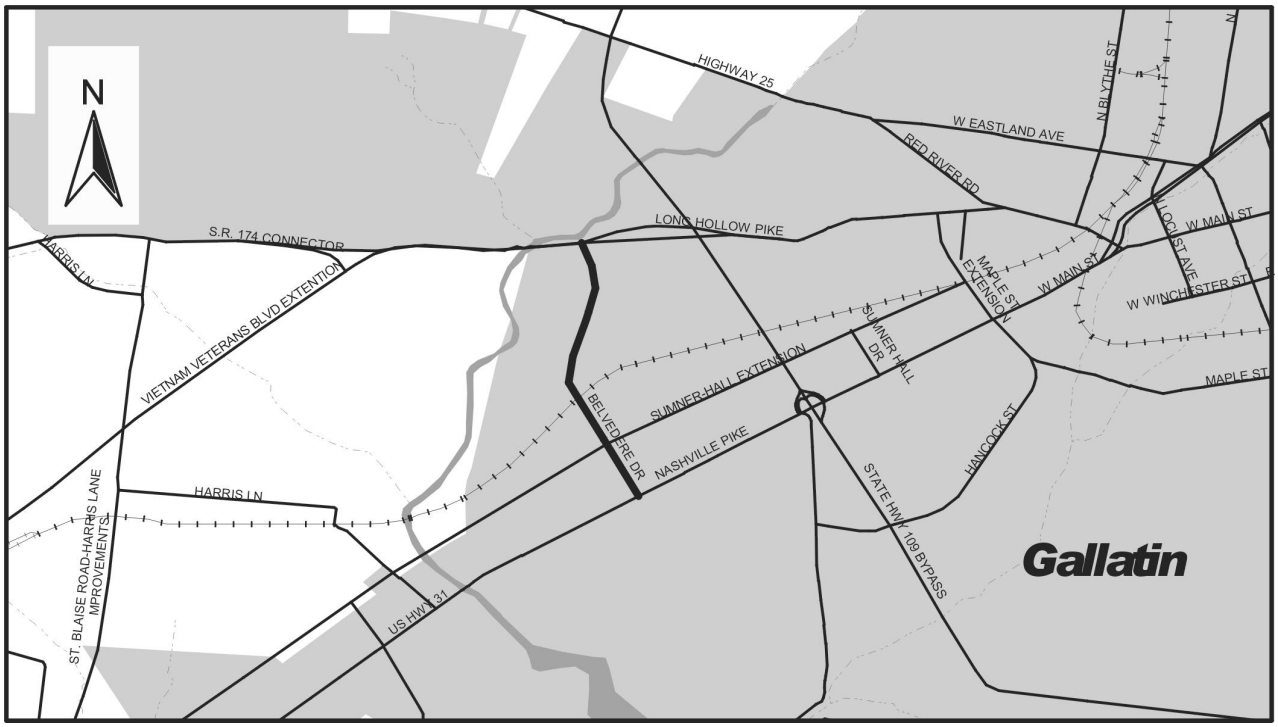


TABLE 6.3k

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Sumner-Hall Extension
Project Description:	Construct a new roadway parallel to S.R. 6 to provide alternate access to businesses. The route will have 3-12' lanes with curb and gutter with sidewalks. It will begin at the proposed Maple Street extension and at an intersection with the proposed St. Blaise Road extension. A minimum 60' right-of-way would likely be required.
Advance Planning Report:	None Completed

Length (miles):	3.15	No. of existing lanes: 0	No. of proposed lanes: 3
1996 ADT:		2020 Projected ADT:	5,600

PROJECT PHASE	
Prelim. Eng. ($)	$365,000
Right-of-Way ($)	$800,000
Construction ($)	$4,200,000
PROJECT COST ($)	$5,365,000

Potential Funding Sources: Local, Developer Participation

PROJECT LOCATION

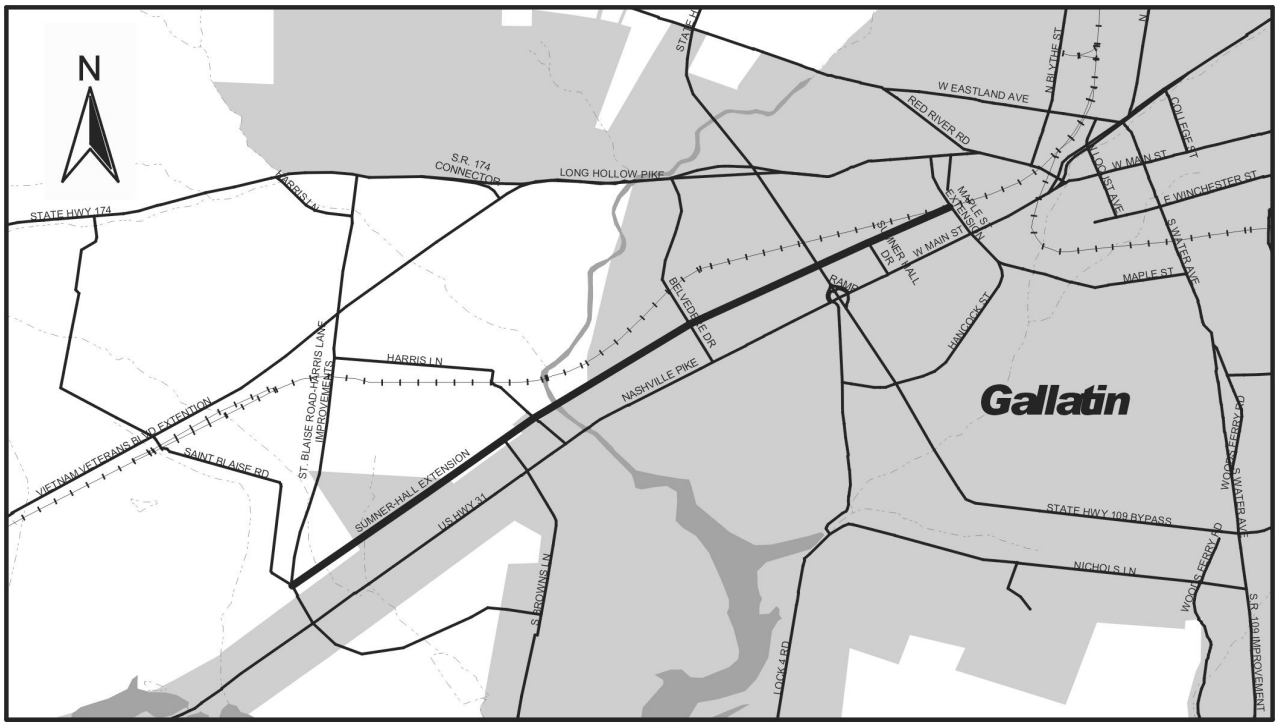


TABLE 6.3l

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Airport Road Extension
Project Description:	Extend Airport Road from its current terminus at S.R. 6 (East Broadway) to S.R. 109. The route will have 2-12' lanes with shoulders and a minimum 45 mph operating speed. It is intended that this will provide greater mobility fro trips between the north and east (particularly those with destinations to the industrial parks).
Advance Planning Report:	None Completed

Length (miles):	2.85	No. of existing lanes: 0	No. of proposed lanes: 2
1996 ADT:		2020 Projected ADT:	7,200

PROJECT PHASE	
Prelim. Eng. ($)	$296,000
Right-of-Way ($)	$840,000
Construction ($)	$2,960,000
PROJECT COST ($)	$4,096,000
Potential Funding Sources: Local, State	

PROJECT LOCATION

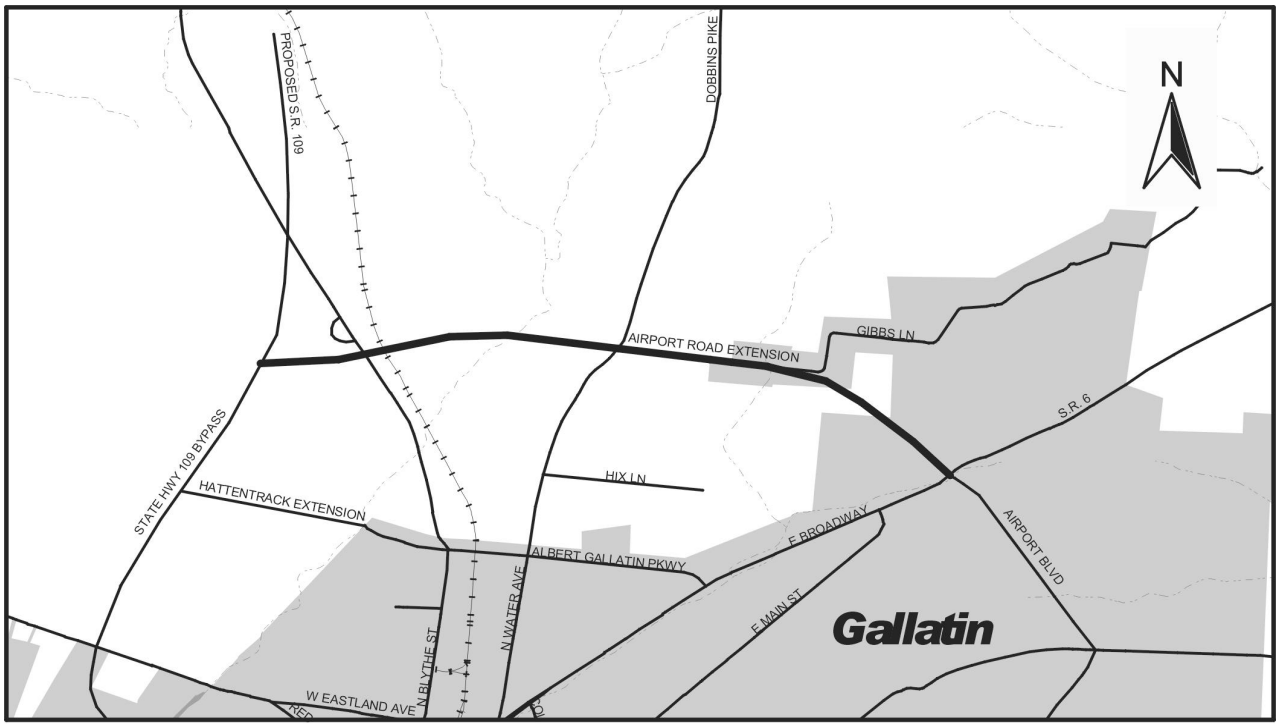


TABLE 6.3m

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Greenlea Boulevard Extension
Project Description:	Construct a new route to provide alternate access between S.R. 6 (Nashville Pike) and dense residential development. The route will contain 2-12' lanes with sidewalks between Browns Lane and S.R. 6. A minimum of 50' of right-of-way will likely be required.
Advance Planning Report:	None Completed

Length (miles):	0.90	No. of existing lanes: 0	No. of proposed lanes: 2
1996 ADT:		2020 Projected ADT:	2,100

PROJECT PHASE	
Prelim. Eng. ($)	$110,000
Right-of-Way ($)	$178,000
Construction ($)	$1,170,000
PROJECT COST ($)	$1,458,000

Potential Funding Sources: Local, Developer Participation

PROJECT LOCATION

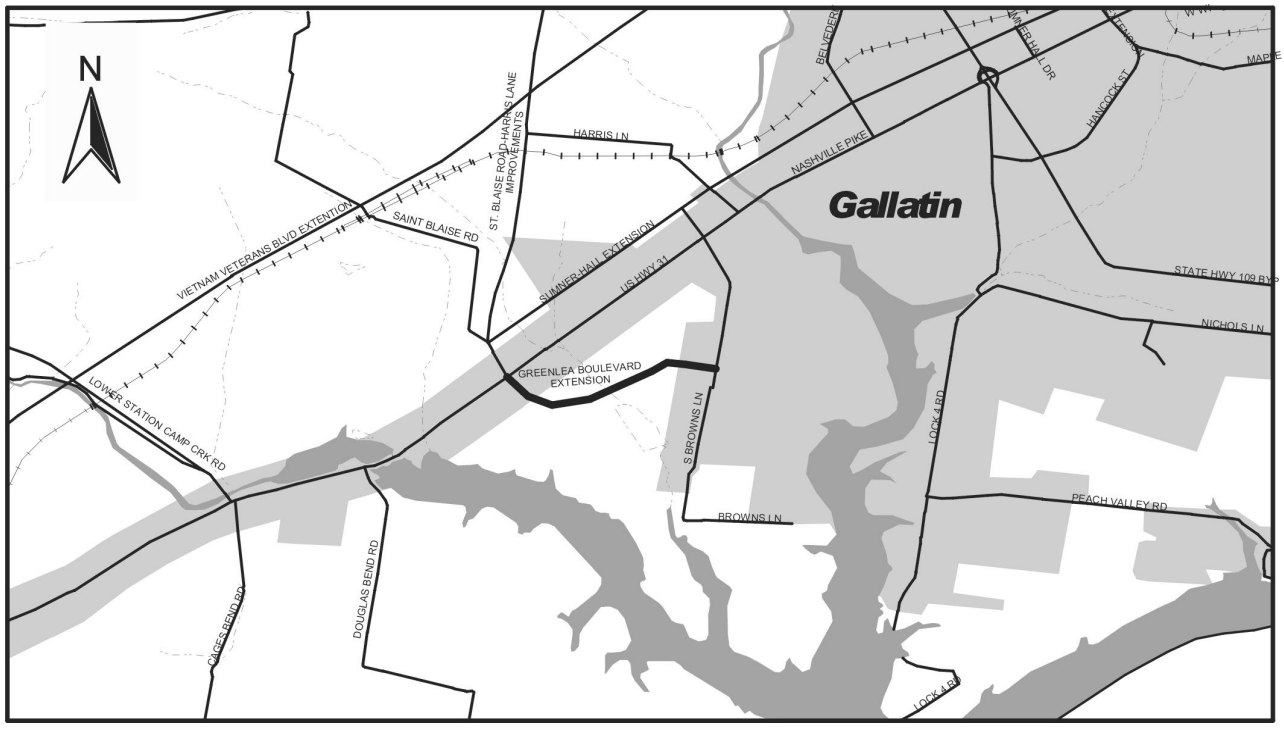


TABLE 6.3n

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Station Camp Creek Road Improvements
Project Description:	Improve the route to 3-12' lanes with open-ditch drainage on existing alignment from S.R. 6 (Nashville Pike) to a proposed interchange with S.R. 386 (Vietnam Veterans Boulevard). North of S.R. 386 the route will go on a new alignment to S.R. 174 (Long Hollow Pike). (Initiated by Sumner County)
Advance Planning Report:	Completed, 1999

Length (miles):	2.80	No. of existing lanes: 2		No. of proposed lanes:	3
1996 ADT:	1,690		2020 Projected ADT:		8,400

PROJECT PHASE	
Prelim. Eng. ($)	
Right-of-Way ($)	
Construction ($)	
PROJECT COST ($)	$4,200,000*

Potential Funding Sources: County, Developer Participation

* Source: Nashville MPO

PROJECT LOCATION

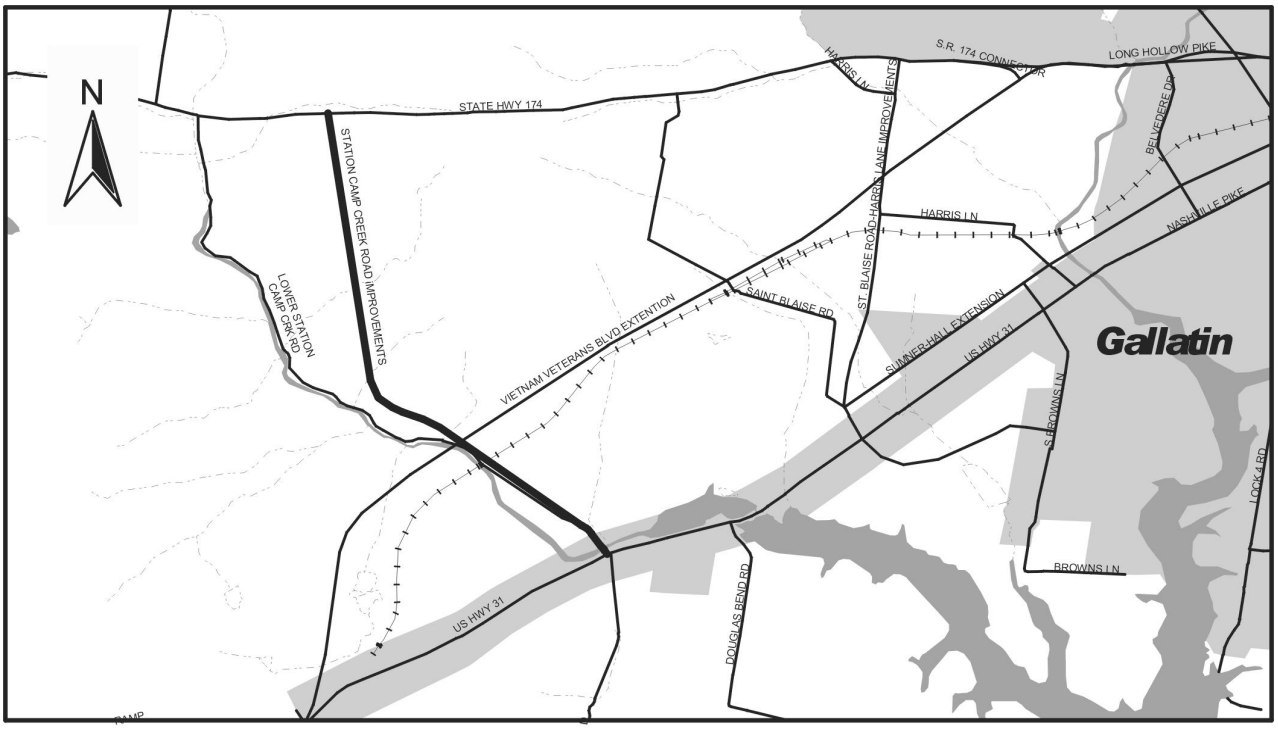


TABLE 6.3o

RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Cages Bend Road / Douglas Bend Road Improvements
Project Description:	Improve existing routes to enhance safety as residential uses increase. Upgrade roads to 2-12' lanes with shoulders and sidewalks. A limited amount of right-of-way may be required.
Advance Planning Report:	None Completed

Length (miles):	1.20	No. of existing lanes: 2		No. of proposed lanes:	2
1996 ADT:	2,500		2020 Projected ADT		4,500

PROJECT PHASE	
Prelim. Eng. ($)	$91,000
Right-of-Way ($)	$116,000
Construction ($)	$918,000
PROJECT COST ($)	$1,125,000
Potential Funding Sources: Local	

PROJECT LOCATION

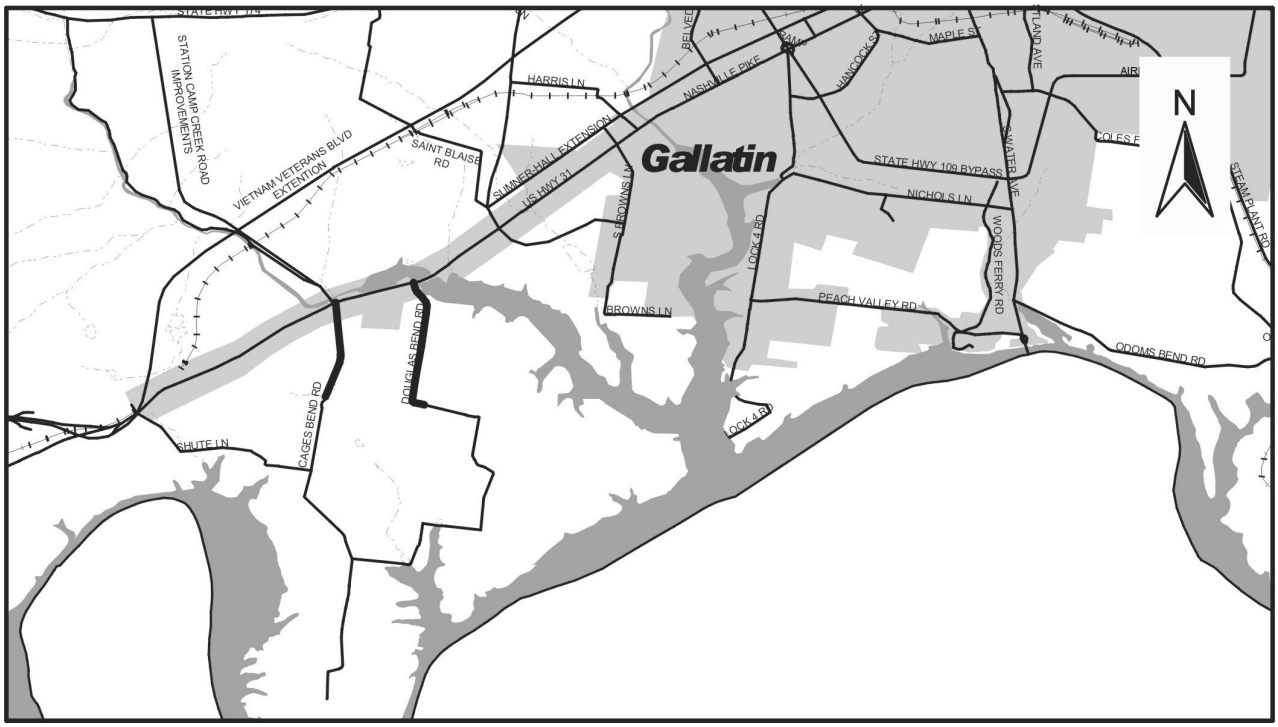


TABLE 6.3p

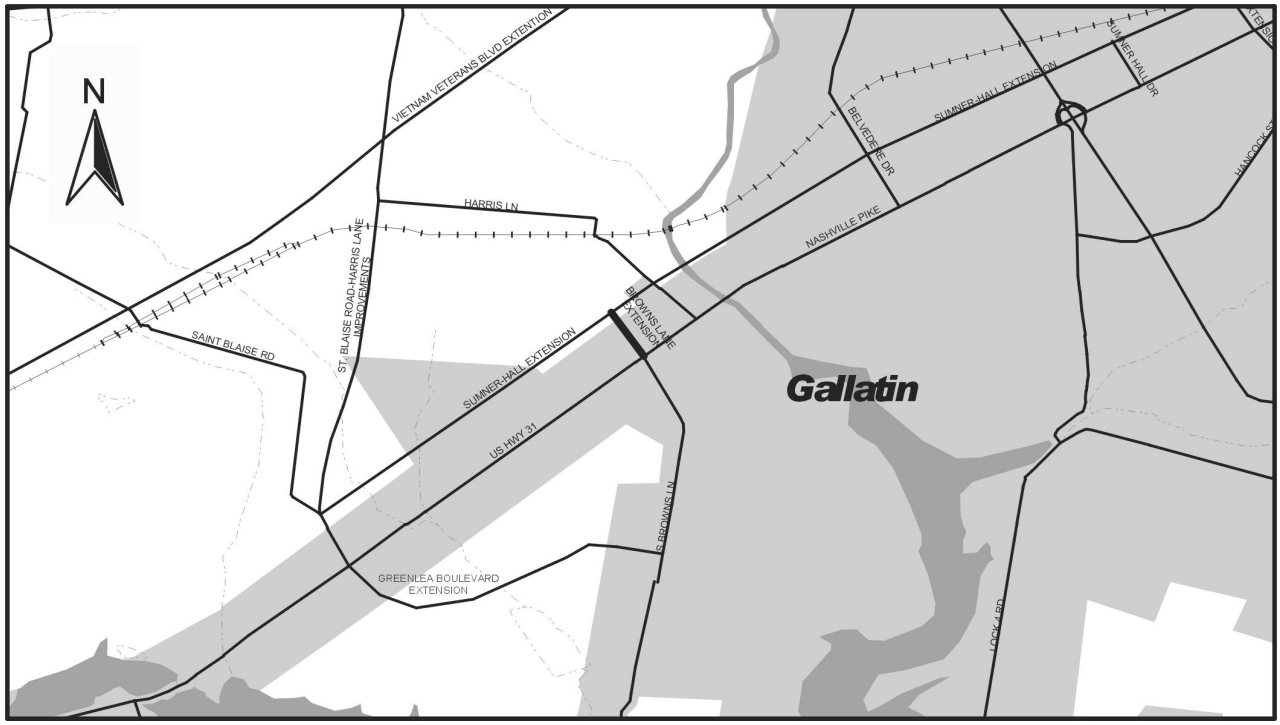
RECOMMENDED IMPROVEMENT PROJECTS
GALLATIN MAJOR THOROUGHFARE PLAN

Project Name:	Browns Lane Extension
Project Description:	Extend Browns Lane to an intersection with the proposed Sumner-Hall extension. The route will have 3-12' lanes with curb and gutter. A minimum of 60' of right-of-way may be required.
Advance Planning Report:	None Completed

Length (miles):	0.25	No. of existing lanes: 0	No. of proposed lanes: 2
1996 ADT:			2020 Projected ADT:

PROJECT PHASE	
Prelim. Eng. ($)	$88,000
Right-of-Way ($)	$53,000
Construction ($)	$900,000
PROJECT COST ($)	$1,041,000
Potential Funding Sources: Local	

PROJECT LOCATION



6.4 Recommended System Daily Traffic Volumes

After potential projects were identified, the travel demand model was used to predict the performance of the recommended system under 2020 traffic estimates. The goal was to select and include improvements that would improve on the existing plus committed system. The recommendations are intended to improve the level of service of those routes that had been forecasted to operate at unsatisfactory conditions. As new roads or upgrades are introduced, changes in route selection may occur as drivers divert trips from more congested routes. For instance, the model results showed the proposed Hatten Track Lane Extension would provide a connection to State Route 109 that would enable drivers to avoid the more congested Broadway corridor. Also, the improvements to Red River Road (SR 25) and Long Hollow Pike (SR 171) would provide a direct and efficient connection to the Vietnam Veterans Bypass (SR 386). Otherwise, traffic is likely to continue to use Nashville Pike (SR 6) to access SR 386. Without such improvements, existing congestion points will worsen and new ones will likely become apparent. Figure 6.2 shows the estimated daily traffic under the recommended system.

6.5 Capacity Analysis of Recommended System

The capacity analysis revealed positive results with the inclusion of the recommended projects. The analysis showed considerable improvement in the most congested routes as compared to their level of service under the existing plus committed condition. The analysis showed that State Route 109 South, with the upgrade to a 5-lane section, would improve to a level of service (LOS) “D” from a level of service “F”. The improvements to Red River Road (SR 25) and Long Hollow Pike (SR 171) between downtown and the proposed Vietnam Veterans Bypass Extension (SR 386) would operate a LOS “C” and “B”, respectively. Also, because this is an attractive alternate to using Nashville Pike (SR 6) to reach SR 386, Nashville Pike is projected to maintain a LOS of “D” and “E” through the study period. With the proposed improvements to Sumner-Hall Drive and St. Blaise Road/Harris Lane mobility and access will be greatly improved southeast of Gallatin. This will be especially advantageous as commercial and industrial uses develop in the area. Although not an all-day condition, only Nashville Pike (SR 6) is forecasted to experience unacceptable levels of service after the recommended improvement projects are implemented. Figure 6.3 graphically illustrates the anticipated levels of service for the recommended system.

Table 6.4 shows a complete summary of estimated traffic volumes and levels of service for the recommended system. Also, the existing and existing plus committed system information is presented to allow for a comparison of all three stages of the analysis process.

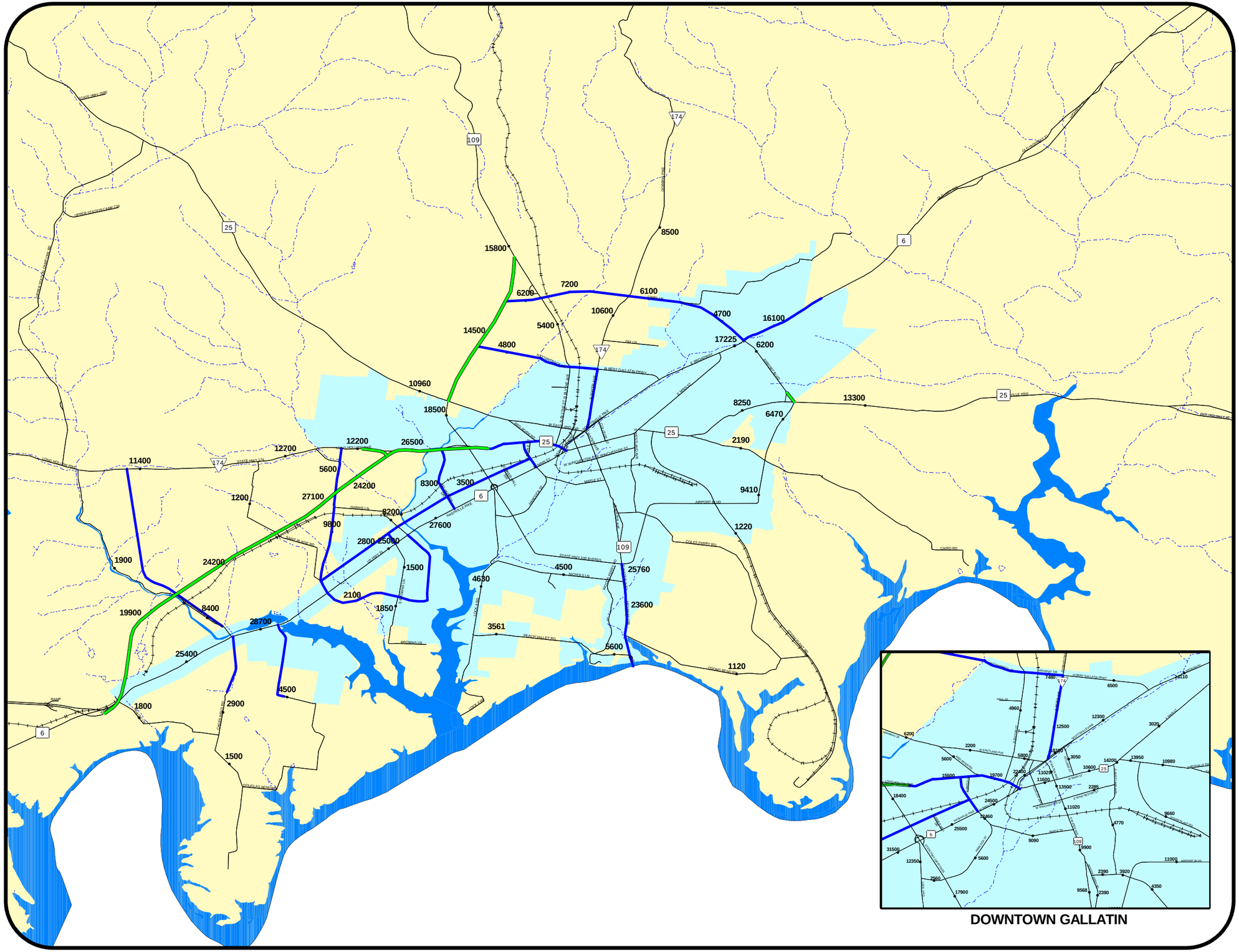
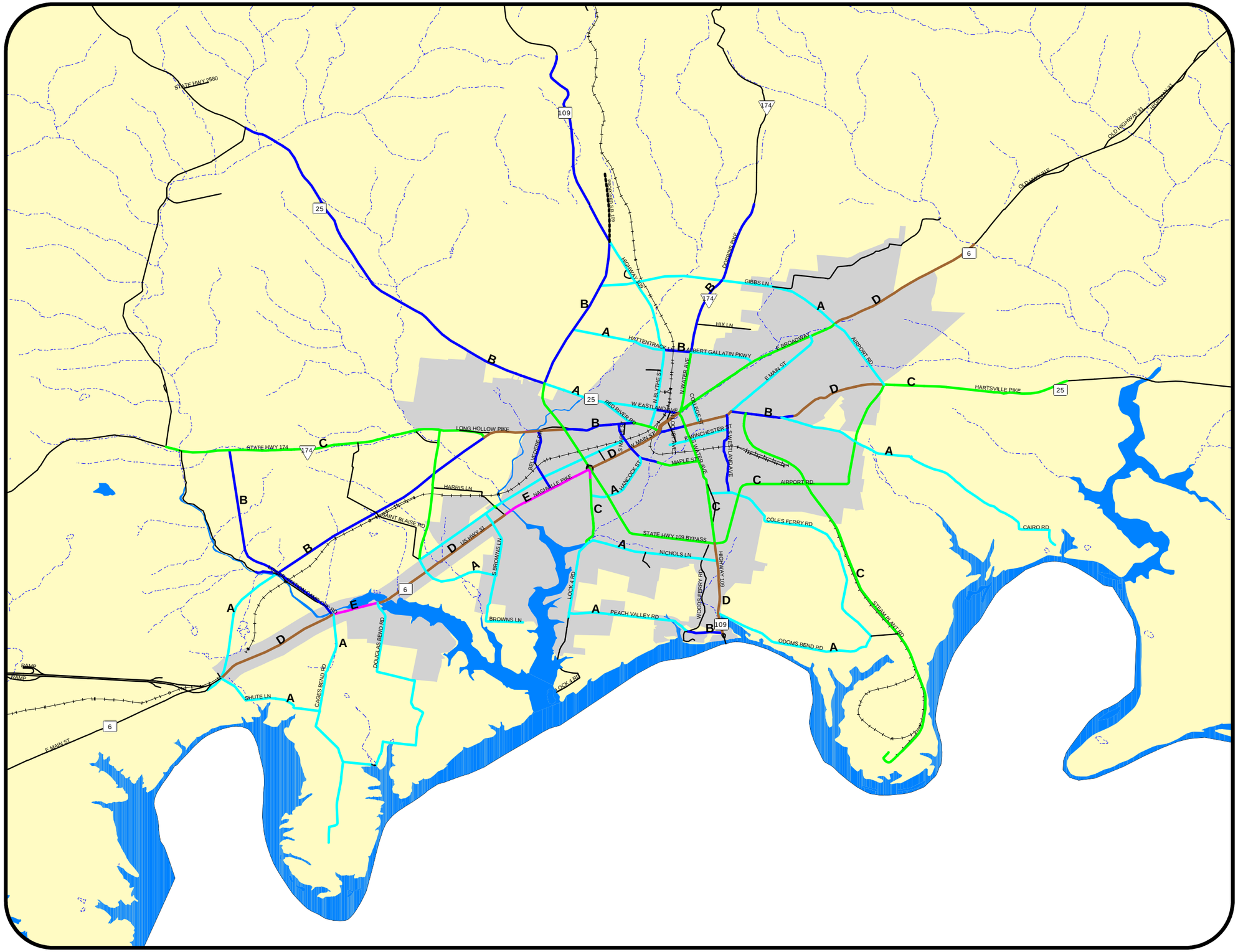


Figure No. 6.2
2020 Recommended Trasportation System Estimated ADT

Gallatin Major Thoroughfare Plan

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS



N

LEGEND

Level of Service

- A
- B
- C
- D
- E
- F

- Railroad
- Streams
- City Limits
- County

Figure No. 6.3
2020 Recommended Transportation System Levels of Service

Gallatin Major Thoroughfare Plan

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS

TABLE 6.4
GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED					FUTURE (RECOMMENDED)					
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Improvement Recommended (See Table 6.2)
Nashville Pike (SR 6)	Shute Lane - Cages Bend Road	5	10'	Yes	32,560	D	5	10'	Yes	38,070	**E**	5	10'	Yes	25,400	D	
Nashville Pike	Cages Bend - Douglas Bend	5	10'	Yes	31,200	D	5	10'	Yes	38,500	**E**	5	10'	Yes	28,700	**E**	
Nashville Pike	Douglas Bend - Harris Lane	5	10'	Yes	32,870	**E**	5	10'	Yes	33,620	**E**	5	10'	Yes	25,000	D	
Nashville Pike	Harris Lane - Belvedere Drive	5	10'	Yes	38,500	**F**	5	10'	Yes	43,200	**F**	5	10'	Yes	27,600	**E**	
Nashville Pike	Belvedere Drive - Lock Four Road	5	10'	Yes	39,910	**F**	5	10'	Yes	35,170	**E**	5	10'	Yes	31,500	**E**	
Nashville Pike	Lock Four Road - Maple Street	5	6'	Yes	25,570	D	5	6'	Yes	29,170	**E**	5	6'	Yes	25,500	D	
West Main Street	Maple Street - West Broadway	5	6'	Yes	31,930	**E**	5	6'	Yes	33,200	**E**	5	6'	Yes	24,500	D	
West Main Street	West Broadway - Hickory Avenue	4	—	Yes	10,100	B	4	—	Yes	11,600	B	4	—	Yes	11,600	B	
West Main Street	Hickory Avenue - Water Street	3	—	Yes	10,100	B	3	—	Yes	11,600	B	3	—	Yes	11,600	B	
West Broadway	West Main Street - Water Street	4	4'	Yes	18,380	C	4	4'	Yes	25,600	**E**	4	4'	Yes	22,400	D	
East Broadway	Water Street - Joann Street	4	4'	Yes	17,720	C	4	4'	Yes	21,900	D	4	4'	Yes	18,100	C	
East Broadway	Joann Street - Airport Road	3	4'	Yes	11,380	B	3	4'	Yes	15,360	D	3	4'	Yes	12,600	C	
East Broadway	Airport - City Limits	2	10'	Yes	9,670	C	2	10'	Yes	14,900	**E**	3	10	Yes	16,100	D	**X**
Highway 109	City Limits - Nichols Lane	2	2'	Yes	19,500	**F**	2	2'	Yes	23,600	**F**	5	4'	Yes	23,600	D	**X**
Highway 109	Nichols Lane - Airport Road	2	4'	Yes	21,000	**F**	2	4'	Yes	25,760	**F**	5	4'	Yes	25,760	D	**X**
Highway 109 (Bypass)	Airport Road - Nashville Pike	4	10'	Yes	18,620	C	4	10'	Yes	17,900	C	4	10'	Yes	17,900	C	
Highway 109 (Bypass)	Nashville Pike - Long Hollow Pike	4	10'	Yes	10,100	A	4	10'	Yes	18,400	C	4	10'	Yes	18,400	C	
Highway 109 (Bypass)	Long Hollow Pike - Red River Road	4	10'	Yes	7,200	A	4	10'	Yes	15,400	B	4	10'	Yes	18,500	C	
Highway 109 (Bypass)	Red River Road - Old Highway 109						4	10'	Yes	8,300	A	4	10'	Yes	14,500	B	
South Water Street	Broadway - Main Street	2	—	Yes	10,770	C	2	—	Yes	11,020	C	2	—	Yes	11,020	C	
South Water Street	Main Street - Bledsoe Street	3	—	Yes	14,100	C	3	—	Yes	13,500	C	3	—	Yes	13,500	C	
South Water Street	Bledsoe Street - Factory Lane	2	2'	Yes	11,100	C	2	2'	Yes	11,020	C	2	2'	Yes	11,020	C	
South Water Street	Factory Lane - Hite Street	3	4'	Yes	10,960	B	3	4'	Yes	9,900	B	3	4'	Yes	9,900	B	
South Water Street	Hite Street - Highway 109	2	4'	Yes	9,800	C	2	4'	Yes	9,570	C	2	4'	Yes	9,570	C	
East Main Street	Water Street - Hartsville Pike	3	—	Yes	14,100	C	3	—	Yes	17,060	D	3	—	Yes	14,500	D	
East Main Street	Hartsville Pike - East Broadway	2	2'	Yes	2,700	A	2	2'	Yes	3,020	A	2	2'	Yes	3,020	A	
Hartsville Pike	Airport Road - Woodlands Drive	2	6'	Yes	9,650	C	2	6'	Yes	10,640	C	2	6'	Yes	13,300	D	

Source: Neel-Schaffer, 1999

TABLE 6.4 (continued)
GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY
GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED					FUTURE (RECOMMENDED)					
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Improvement Recommended (See Table 6.2)
Hartsville Pike	Woodlands Drive - East of Center Drive	3	4'	Yes	7,450	A	3	4'	Yes	8,250	B	3	4'	Yes	8,250	B	
Hartsville Pike	East of Center Drive - East Main Street	5	2'	Yes	9,900	A	5	2'	Yes	13,950	B	5	2'	Yes	13,950	B	
Long Hollow Pike	Buckingham Boulevard - State Route 109, Vietnam Veterans (2020)	2	2'	Yes	8,030	B	2	2'	Yes	7,650	B	2	2'	Yes	12,200	C	
Long Hollow Pike	State Route 109 - Red River Road	2	4'	Yes	6,580	B	2	4'	Yes	15,500	**E**	5	4'	Yes	15,500	B	**X**
Red River Road	Station Camp Creek Road - State Route 109	2	2'	Yes	8,600	B	2	2'	Yes	10,960	B	2	2'	Yes	10,960	B	
Red River Road	State Route 109 - Long Hollow Pike	2	2'	Yes	7,400	B	2	2'	Yes	6,200	A	2	2'	Yes	6,200	A	
Red River Road	Long Hollow Pike - Main Street	2	2'	Yes	10,500	C	2	2'	Yes	17,700	**E**	5	4'	Yes	19,700	C	**X**
Airport Road	State Route 109 - Hartsville Pike	2	6'	Yes	8,400	B	2	6'	Yes	11,000	C	2	6'	Yes	11,000	C	
Airport Road	Hartsville Pike - East Broadway	2	6'	Yes	3,900	A	2	6'	Yes	6,200	A	2	6'	Yes	6,200	A	
Dobbins Pike	North Water Street - City Limits	2	4'	Yes	5,400	A	2	4'	Yes	12,330	C	2	4'	Yes	10,600	B	
North Water Street	East Main Street - Dobbins Pike	2	—	Yes	11,100	C	2	—	Yes	14,100	**E**	3	4'	Yes	12,500	C	**X**
North Water Street	Dobbins Pike - Blythe Street	2	2'	Yes	8,190	B	2	2'	Yes	8,370	B	5	8'	Yes	9,800	A	**X**
Albert Gallatin Avenue	East Broadway - Dobbins Pike	3	2'	Yes	3,530	A	3	2'	Yes	6,440	A	3	2'	Yes	6,500	A	
Station Camp Creek Road	Nashville Pike - City Limits	(22')	2'	No	1,600	A	(22')	2'	No	5,300	B	3	8'	Yes	8,400	B	**X**
Cages Bend Road	Nashville Pike - City Limits	2	—	Yes	1,600	A	2	—	Yes	2,900	A	2	6'	Yes	2,900	A	**X**
Douglas Bend Road	Nashville Pike - Lori Lee Drive	2	—	Yes	2,500	A	2	—	Yes	4,500	A	2	6'	Yes	4,500	A	**X**
Nichols Lane	Lock Four Road - State Route 109	2	2'	Yes	2,600	A	2	2'	Yes	4,500	A	2	2'	Yes	4,500	A	
Lock Four Road	Nashville Pike - Belvedere Drive	2	—	Yes	5,820	B	2	—	Yes	12,350	**E**	2	—	Yes	12,350	**E**	
Lock Four Road	Belvedere Drive - Nichols Lane	2	5'	Yes	3,030	A	2	5'	Yes	7,700	C	2	5'	Yes	7,700	C	
Lock Four Road	Nichols Lane - City Limits	2	1'	Yes	1,715	A	2	1'	Yes	4,630	A	2	1'	Yes	4,630	A	
Belvedere Street	Long Hollow Pike - Nashville Pike	2	2'	Yes	4,550	A	2	2'	Yes	7,300	B	3	6'	Yes	8,300	B	**X**
Hancock Street	Lock Four Road - Highway 109	(24')	—	No	2,780	A	(24')	—	No	2,560	A	(24')	—	No	2,560	A	
Hancock Street	State Route 109 - Greenwave drive	5	—	Yes	3,800	A	5	—	Yes	5,600	A	5	—	Yes	5,600	A	
Hancock Street	Greenwave Drive - Maple Street	4	—	Yes	3,800	A	4	—	Yes	5,600	A	4	—	Yes	5,600	A	
Maple Street	Nashville Pike - Hancock Street	5	—	Yes	10,200	A	5	—	Yes	12,460	B	5	—	Yes	12,460	B	
Maple Street	Hancock Street - Louise Street	3	—	Yes	8,800	B	3	—	Yes	9,090	B	3	—	Yes	9,090	B	
Maple Street	Louis Street - South Water Street	2	—	Yes	8,800	C	2	—	Yes	9,090	C	2	—	Yes	9,090	C	

Source: Neel-Schaffer, 1999

TABLE 6.4 (continued)

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY

GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED					FUTURE (RECOMMENDED)					
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Improvement Recommended (See Table 6.2)
Westland Avenue	East Main Street - Richland Circle	2	2'	Yes	3,900	A	2	2'	Yes	6,770	B	2	2'	Yes	6,770	B	
Westland Avenue	Richland Circle - Coles Ferry Road	(24')	2'	No	3,900	A	(24')	2'	No	6,770	B	(24')	2'	No	6,770	B	
Coles Ferry Road	South Water Street - Airport Road	2	—	Yes	3,300	A	2	—	Yes	3,920	A	2	—	Yes	3,920	A	
Coles Ferry Road	Airport Road - City Limits	(22')	—	No	1,150	A	(22')	—	No	4,350	A	(22')	—	No	4,350	A	
Winchester Street	South Locust - Westland Avenue	(24')	—	No	1,570	A	(24')	—	No	2,290	A	(24')	—	No	2,290	A	
College Avenue	East Main Street - East Broadway	(22')	—	No	2,700	A	(22')	—	No	3,050	A	(22')	—	No	3,050	A	
West Eastland Avenue	Broadway - Blythe Street	2	2'	Yes	5,600	B	2	2'	Yes	5,800	B	2	2'	Yes	5,800	B	
West Eastland Avenue	Blythe Street - Roosevelt Circle	2	—	Yes	5,600	B	2	—	Yes	5,800	B	2	—	Yes	5,800	B	
West Eastland Avenue	Roosevelt Circle - Red River Road	(24')	—	No	3,200	A	(24')	—	No	2,200	A	(24')	—	No	2,200	A	
Blythe Street	Red River Road - Pace Street	2	2'	Yes	4,700	A	2	2'	Yes	4,960	A	2	2'	Yes	4,960	A	
Blythe Street	Pace Street - North Water Street	(24')	—	No	4,700	A	(24')	—	No	4,960	A	(24')	—	No	4,960	A	
Shute Lane	Nashville Pike - Cages Bend Road	2	—	Yes	1,530	A	2	—	Yes	1,800	A	2	—	Yes	1,800	A	
Peach Valley Road	Highway 109 - Cherokee Road	2	2'	Yes	1,410	A	2	2'	Yes	5,600	B	2	2'	Yes	5,600	B	
Peach Valley Road	Cherokee Road - Lock Four Road	(22')	—	No	1,710	A	(22')	—	No	3,560	A	(22')	—	No	3,560	A	
Brown's Lane	Nashville Pike - City Limits	2 (Divided)	—	No	1,010	A	2 (Divided)	—	No	1,850	A	2 (Divided)	—	No	1,850	A	
Steam Plant Road	Hartsville Pike - City Limits	2	0'-3'	Yes	3,430	A	2	0'-3'	Yes	9,660	C	2	0'-3'	Yes	9,660	C	
Cairo Road	Airport Road -Hartsville Pike	2	—	Yes	1,500	A	2	—	Yes	2,190	A	2	—	Yes	2,190	A	
Odom's Bend Road	State Route 109 - City Limits	2	2'	Yes	800	A	2	2'	Yes	1,120	A	2	2'	Yes	1,120	A	
Harris Lane	Nashville Pike - Long Hollow Pike	(20')	—	No	3,900	A	(20')	—	No	8,200	C						
St Blaise Road	Nashville Pike - Long Hollow Pike	(20')	—	No	2,660	A	(20')	—	No	1,600	A						
Vietnam Veterans Boulevard	SR 6 - Station Camp Creek Road						4	10'	Yes	19,900	A	4	10'	Yes	19,900	A	
Vietnam Veterans Boulevard	Station Camp Creek Road - Harris Lane						4	10'	Yes	24,200	B	4	10'	Yes	27,100	B	
Vietnam Veterans Boulevard	Harris Lane - Long Hollow Pike						4	10'	Yes	22,200	B	4	10'	Yes	24,200	B	
Vietnam Veterans Boulevard	Long Hollow Pike - Highway 109						5	10'	Yes	28,400	**E**	5	10'	Yes	26,500	D	
Hatten Track Lane Extension	State Route 109 - Blythe Street											3	8	Yes	4,800	A	**X**

Source: Neel-Schaffer, 1999

TABLE 6.4 (continued)

GALLATIN TRANSPORTATION SYSTEM NETWORK SUMMARY

GALLATIN MAJOR THOROUGHFARE PLAN

ROADWAY DESCRIPTION	TERMINI	EXISTING					EXISTING PLUS COMMITTED					FUTURE (RECOMMENDED)					
		Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Modeled 1996 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Number of Lanes (Pavement Width)	Shoulder Width (ft)	Pavement Striping	Projected 2020 Traffic (ADT)	Level of Service	Improvement Recommended (See Table 6.2)
St. Blaise Road/Harris Lane	Nashville Pike - Long Hollow Pike											3/5	8	Yes	9,800	C	X
Maple Street Extension	Nashville Pike - Long Hollow Pike											3/5	8	Yes	7,300	B	X
Sumner-Hall Extension	Proposed Maple Street - St. Blaise Road											3	6	Yes	5,600	A	X
Airport Road Extension	East Broadway - State Route 109											2	6	Yes	7,200	A	X
Greenlea Boulevard	Nashville Pike - Browns Lane											2	6	Yes	2,100	A	X
Brown's Lane Extension	Nashville Pike - Sumner Hall Extension											3	2	Yes	N/A	N/A	X

Source: Neel-Schaffer, 1999

6.6 Prioritization of Recommended Improvements

The recommended improvement list is comprised of a variety of projects. They include new roads to improve access and mobility, widening of existing routes to ensure capacity for increased demand, and improvements to existing routes to enhance safety and provide additional capacity. A list of criteria was developed and, then, reviewed for relevance. Various issues ranging from cost to mobility improvement comprise the criteria list. Each recommended project was assigned a raw score from 1 to 5 (5 being the most favorable). The individual weight of each criterion was summed to arrive at the total score. A ranked list is given in Table 6.5.

Due to the limited amount of funds available to Gallatin for transportation improvements, only a selected number of projects will be able to be carried forward toward implementation. This prioritized list provides decision makers with a tool to subjectively compare different projects.

In addition to the prioritization matrix, it may be helpful to consider the proposed improvements in terms of short-term, mid-term, and long-term improvements. Short-term projects would be those projects that may be implemented within 5 years, mid-term projects within 10 years and long-term projects would likely occur 10 or more years in the future. Using the results of the prioritization matrix as a guide, the recommended projects could be grouped in this manner.

Short-Term Improvements	*Mid-Term Improvements*	*Long-Term Improvements*
St. Blaise Road/Harris Lane	Long Hollow Pike (SR 174)	Sumner-Hall Extension
State Route 109 North	Red River Road (SR 25)	Browns Lane
State Route 109 South	Station Camp Creek Road	East Broadway (SR 6)
Hatten Track Lane	Belvedere Drive	Airport Road Extension
Maple Street		Cages Bend Road
Greenlea Boulevard		Douglas Bend Road
		North Water Street

Several variables could change the timing of any of these projects (including but not limited to): availability of funds, changes in development patterns, and governmental or citizen support. Depending on these and other factors, the recommended projects may be implemented sooner or later than described here or possibly not at all. Future updates to the Major Thoroughfare Plan would address any of these revisions.

6.7 Estimated Costs for Recommended Projects

Table 6.6 summarizes cost projections for each of the recommended improvements. Tennessee Department of Transportation methodologies were followed in calculating the various quantities. The estimated costs do not include utility relocations or maintenance expenses; all costs are in 1999 dollars.

Implementation of the recommended projects depends greatly on the availability to establish a funding source. Most likely, not all projects presented will be implemented within the 20-year study period. Various sources of funding may be used to finance the recommended improvements: Federal Highway Administration (FHWA), Tennessee Department of Transportation (TDOT), private developers and the City of Gallatin. Potential federal programs that could be pursued include National Highway System

funds, Surface Transportation Program funds and Congestion Mitigation and Air Quality (CMAQ) funds. Any improvements recommended for state routes will most likely be undertaken by TDOT. Based on the monetary allotment obtained from federal, state and local resources, it is recommended that the City follow a prioritized project list based on its needs.

TABLE 6.5 PROJECT PRIORITIZATION MATRIX

Gallatin Major Thoroughfare Plan

Improvement	*Criteria*																		**TOTAL SCORE**
	Traffic Flow Improvement		Mobility Improvement		Environmental Impact		Economic Development		Cost		Consistent with Regional Goals		Improve Safety		Multi-Modal Connectivity		Implementability		
	Scoring Schedule (1-5)																		
	1 = Less Improvement 5 = Improvement		1 = Less Improvement 5 = Improvement		1 = More Impact 5 = Less Impact		1 =Less Impact 5 = More Impact		1 = High 5 = Low		1 = Less Consistent 5 = Most Consistent		1 = Less Improvement 5 = Improvement		1 = Less Improvement 5 = Improvement		1 = Difficult 5 = Probable		
	Weight (1-10)																		
	10		7		8		5		10		10		7		4		8		
	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	Raw Score	Weighted	
St. Blaise Road / Harris Lane Realignment	5	50	5	35	2	16	5	25	2	20	4	40	4	28	3	12	5	40	**266**
State Route 109 North*	5	50	5	35	2	16	4	20	1	10	5	50	4	28	3	12	5	40	**261**
State Route 174* (Long Hollow Pike)	5	50	5	35	3	24	2	10	3	30	4	40	3	21	4	16	4	32	**258**
State Route 109 South*	5	50	5	35	2	16	2	10	1	10	5	50	4	28	3	12	5	40	**251**
State Route 25* (Red River Mile)	5	50	5	35	3	24	2	10	3	30	4	40	3	21	4	16	3	24	**250**
Station Camp Creek Road Improvements*	4	40	5	35	2	16	4	20	3	30	4	40	2	14	3	12	5	40	**247**
Hatten Track Lane Extension	5	50	5	35	1	8	3	15	2	20	4	40	2	14	3	12	5	40	**234**
Maple Street Extension	4	40	5	35	3	24	2	10	3	30	3	30	2	14	2	8	5	40	**231**
Sumner-Hall Extension	5	50	4	28	2	16	5	25	2	20	3	30	2	14	3	12	3	24	**219**
State Route 6* (East Broadway)	4	40	2	14	3	24	3	15	4	40	3	30	2	14	2	8	4	32	**217**
Browns Lane Extension	4	40	4	28	3	24	3	15	3	30	3	30	2	14	3	12	3	24	**217**
Airport Road Extension	5	50	5	35	2	16	3	15	2	20	3	30	2	14	3	12	3	24	**216**
Belvedere Drive Improvements	4	40	3	21	3	24	3	15	3	30	3	30	2	14	2	8	4	32	**214**
Cages Bend Road Improvements	4	40	1	7	3	24	1	5	4	40	3	30	5	35	2	8	3	24	**213**
Douglas Bend Road Improvements	4	40	1	7	3	24	1	5	4	40	3	30	5	35	2	8	3	24	**213**
Greenlea Boulevard Extension	3	30	4	28	3	24	1	5	3	30	3	30	2	14	2	8	4	32	**201**
North Water Street Improvements	4	40	2	14	3	24	3	15	3	30	2	20	3	21	2	8	3	24	**196**

Individual Score = Sum of (Weight x Score)

* Most likely State or County project

Source: Neel-Schaffer, 1999

TABLE 6.6 ESTIMATED COSTS FOR RECOMMENDED PROJECTS

Gallatin Major Thoroughfare Plan

Improvement	Number of Lanes / Minimum R.O.W. Width	Length (miles)	R.O.W. Cost	Construction Cost	Prelim. Engineering Cost	Total Cost
State Route 174 (Long Hollow Pike)	5 / 88'	0.95	$241,000	$1,100,000	$110,000	$1,451,000
State Route 25 (Red River Mile)	5 / 88'	0.35	$110,880	$754,000	$69,000	$933,880
State Route 109 North*	4 / 120'	1.50				$37,100,000
State Route 109 South*	5 / 104'	1.75				$50,600,000
State Route 6 (East Broadway)	3 / 60'	1.75	$79,000	$45,000	$784,000	$908,000
Hatten Track Lane Extension	3,5 / 60',110'	1.75	$1,423,000	$4,617,000	$502,000	$6,542,000
North Water Street Improvements	3 / 50'	0.90	$76,000	$63,000	$696,000	$835,000
St. Blaise Road / Harris Lane Realignment	5 / 120'	2.25	$1,028,000	$3,949,000	$332,000	$5,309,000
Maple Street Extension	5 / 104'	0.45	$592,000	$2,142,000	$195,000	$2,929,000
Belvedere Drive Improvements	3 / 60'	0.95	$50,000	$780,000	$71,000	$901,000
Sumner-Hall Extension	3 / 60'	3.15	$800,000	$4,200,000	$365,000	$5,365,000
Airport Road Extension	2 / 60'	2.85	$840,000	$2,960,000	$296,000	$4,096,000
Greenlea Boulevard Extension	2 / 60'	0.90	$178,000	$1,170,000	$110,000	$1,458,000
Station Camp Creek Road Improvements*	3 / 60'	2.80				$4,200,000
Cages Bend Road Improvements	2 / 50'	0.75	$116,000	$450,000	$65,000	$631,000
Douglas Bend Road Improvements	2 / 50'	1.10	$180,000	$680,000	$75,000	$935,000
Browns Lane Extension	2 / 60'	0.25	$53,000	$900,000	$88,000	$1,041,000
	TOTAL COST		$5,766,880	$23,810,000	$3,758,000	$125,234,880

Source: Neel-Schaffer, 1999

1. All costs are in 1999 dollars.
2. Total cost does not inlcude utilities or maintenance.

* Cost based on total project length including outside study limits.
Total cost obtained from MPO estimates.

6.8 Pedestrian and Bicycle Improvements

The inclusion of pedestrian and bicycle facilities in the transportation network has taken on an increased importance as cities and the public have sought for additional recreational opportunities and alternatives to using vehicular transportation. In the past, sidewalk installation has only been a secondary concern. Pedestrian and bicycle considerations have been included in the study. The typical cross-sections presented in the study include descriptions for the installation of sidewalks. Specific decisions concerning sidewalk implementation are generally made on a case-by-case basis. However, the inclusion of sidewalks in improvements to local streets and collector routes are strongly encouraged.

A bicycle plan has recently been completed as part of another study. The Gallatin's Bicycle and Pedestrian Plan outlines recommendations to implement projects to accommodate bicycle transportation. Improvements were categorized into three categories: bicycle path, bicycle lane, and bicycle route. These designations are in order of decreasing levels of control and provision. The path provides exclusive right-of-way separated from vehicle travel lanes. Bicycle lanes appear directly adjacent to vehicle lanes but are outlines using pavement markings. A bicycle route does not provide special markings or separation from traffic; bicyclists share traffic lanes with vehicles. As can be seen, there are different levels of cost and safety with each designation. In terms of land needs and cost, bicycle paths and lanes require additional right-of-way and construction. For those routes that have been recommended as bicycle routes, a complete listing may be found in the Gallatin's Bicycle and Pedestrian Plan. Because of the additional land and construction requirements for bicycle paths and lanes, the following list (obtained from the bicycle report) shows those routes that have been proposed to have bike paths or lanes and also are proposed for improvements as a part of the Major Thoroughfare Plan. This has been done to assist City officials coordinate efforts for the implementation of the proposed improvements.

Bicycle Path

- Station Camp Creek Road from Nashville Pike (SR 6) Boat Ramp to City Park and from Nashville Pike to Trail Head

Bicycle Lane

- Hatten Track Lane/Extension from State Route 109 to North Water Street
- Long Hollow Pike (SR 171) from Maple Street Extension to Western City Limits
- St. Blaise Road/Harris Lane Improvement from Nashville Pike to Long Hollow Pike
- State Route 109 from Southern City Limits to James Street
- State Route 109 from Airport Road to Hancock Street
- Sumner-Hall Drive from Nashville Pike to Sumner-Hall Extension
- Sumner-Hall Extension from Gap Boulevard to Sumner-Hall Drive

For additional information, the Bicycle and Pedestrian Plan should be consulted.

6.9 Congestion and Travel Demand Management Strategies

As the number of vehicle-trips continues to rise, it is unrealistic to expect that the construction of additional capacity is limitless. Additional methods of handling, or reducing, demand becomes increasingly important. Several strategies may be effective in managing congestion and demand in Gallatin. One strategy to reduce travel demand would be to continue the effort of growth management. This method reduces the extent of trips by locating related destinations in closer proximity to each other. For instance, the implementation of land use planning that encourages the development of residential and commercial centers adjacent to one another. This would likely reduce the need for long distance trips that would otherwise contribute to congestion. Also, it may be beneficial to promote the use of intra-city high-occupancy vehicles. If there is demand for such services, a plan could be established to implement a scheduled van or bus service during special citywide events, including athletic or other recreational events. Measures could be taken to increase the awareness and education concerning ride-sharing opportunities within the Gallatin area and for destinations inside Nashville-Davidson County. In a 1998 study, the Regional Transit Authority identified a formal park-and-ride lot in downtown Gallatin near City Hall. Coordination is encouraged between those who commute to the Nashville area for employment. Incentives to use the park-and-ride could be explored to encourage the use of the service. With the implementation of high-occupancy vehicle lanes on Interstate 65 north of Nashville in the coming years, it may be an opportune time to advertise the regional park-and-ride service and its benefits. It is also recommended that the City investigate implementing an updated coordinated signal system, especially in the downtown area. The City may apply for CMAQ funding to assist in financing such an effort. The benefits would be seen in reduced congestion, shortened travel times and reduced vehicle emissions.

Opportunities to implement specific congestion management and travel demand reduction strategies would be most effective along those routes that operate below satisfactory levels of service. Based on the analysis of the recommended system traffic projections, the following routes are anticipated to operate at levels of service “D” or “E”: Nashville Pike, East Broadway, East Main Street, Long Hollow Pike, and State Route 109 South. If geometric improvements are not feasible, access management, signal coordination, and strict land use policies may be viable alternatives to help maintain maximum efficiency.

As Gallatin continues to grow, a combination of construction projects, good planning, and congestion management techniques will be required to maintain an efficient transportation system.

6.10 Air Quality

This section presents results of an air quality analysis based on outputs from the regional transportation model. A before-after comparison was made to measure the impact of the recommended projects on air quality. The analysis estimates vehicle emissions of carbon monoxide (CO), nitrogen oxides (NO_x) and hydrocarbons (HC). The amount of emission varies depending on the average operating speed of vehicles. Total emissions are also based on traffic volume and vehicle miles traveled. Table 6.7 shows average emission rates for various vehicle-operating speeds.

TABLE 6.7 EMISSION RATES BASED ON VEHICLE SPEED

Gallatin Major Thoroughfare Plan

Speed	Hydrocarbons (grams/mi/veh)	Carbon Monoxide (grams/mi/veh)	Nitrogen Oxide (grams/mi/veh)
10	3.2	30.2	2.2
15	2.5	23.5	2.0
20	2.1	19.8	1.9
25	1.8	15.2	1.9
30	1.6	12.2	1.9
35	1.4	10.1	1.9
40	1.3	8.5	2.0
45	1.2	7.3	2.0
50	1.2	6.8	2.2
55	1.1	6.8	2.5

Source: EPA, Traffic Control Measures Information Document

Estimated traffic volumes and total mileage of routes of different average operating speed were taken from the existing plus committed system and from the recommended system. Emission estimates were calculated for both systems for routes of different operating speeds. Table 6.8 shows a comparison of the recommended system to the existing plus committed system.

The recommended system represents approximately a 15% increase in total roadway mileage with only a 10%-15% increase in vehicle emissions. In part, the results show that the recommended projects would likely reduce congestion allowing overall operating speeds to increase. At the same time, because roadway mileage is added as a part of the recommended system, absolute emission levels will increase some. The challenge is to implement improvements that would have positive effects on operating speeds and reduce vehicle trip lengths. Funding for projects that can be shown to improve vehicle flow and reduce idle emissions are available for CMAQ funding from FHWA.

TABLE 6.8 AIR QUALITY ANALYSIS COMPARISON

Gallatin Major Thoroughfare Plan

2020 Existing Plus Committed System

Speed (mph)	Distance (miles)	Volume (ADT)	Emissions (grams)		
			HC	CO	NO
10-20	0	0	0	0	0
20-30	6.7	37,050	446,823	3,773,172	471,647
30-40	26.5	244,370	9,066,127	65,405,631	12,304,030
40-50	27.8	346,120	11,546,563	70,241,593	19,244,272
50-60	8.1	279,790	2,492,929	15,410,833	5,665,748
TOTALS	69.1	907,330	23,552,442	154,831,229	37,685,696

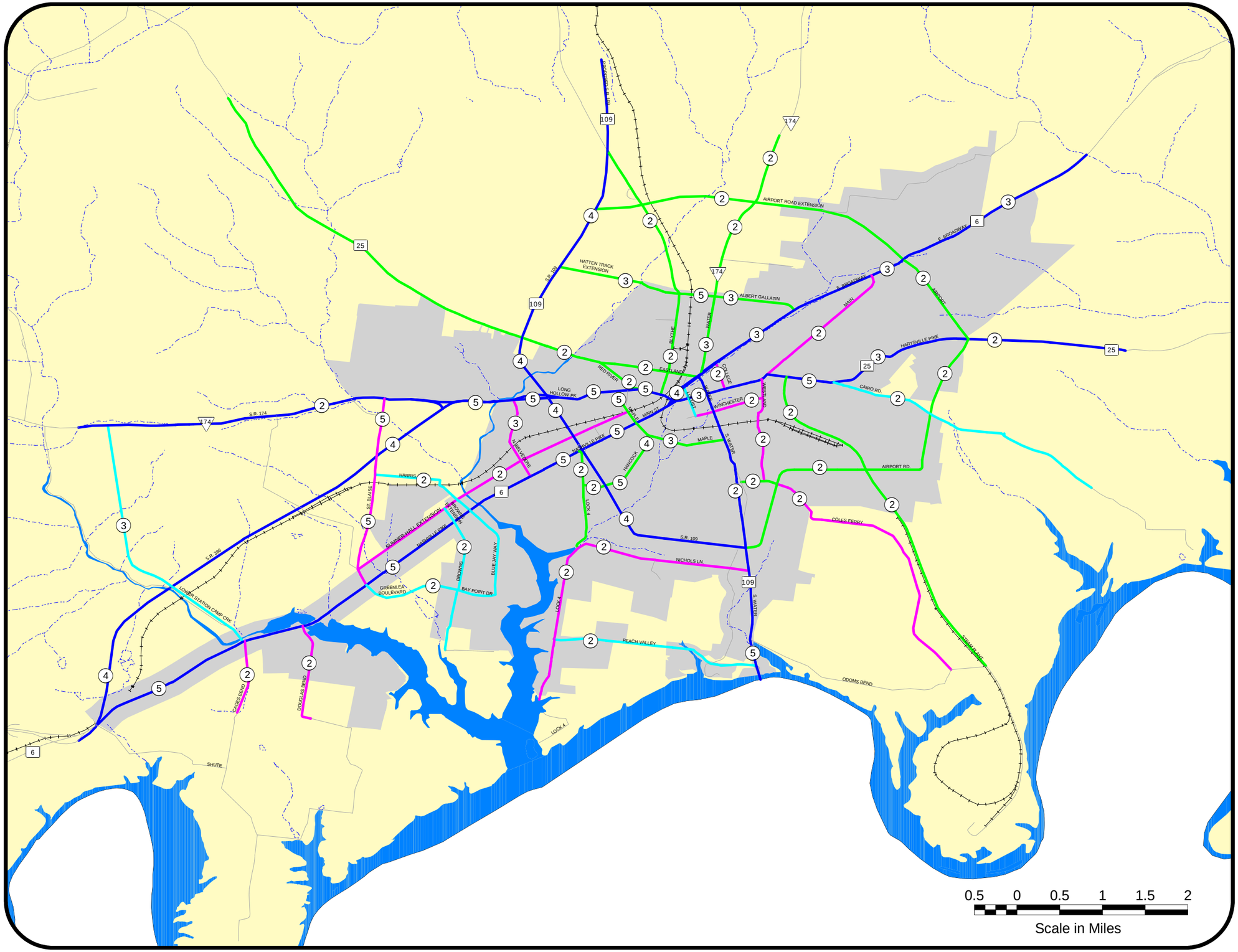
2020 Recommended System

Speed (mph)	Distance (miles)	Volume (ADT)	Emissions (grams)		
			HC	CO	NO
10-20	0	0	0	0	0
20-30	6.7	33,000	397,980	3,360,720	420,090
30-40	30.6	234,500	10,045,980	72,474,570	13,633,830
40-50	31.5	368,000	13,910,400	84,621,600	23,184,000
50-60	8.1	297,000	2,646,270	16,358,760	6,014,250
TOTALS	76.9	932,500	27,000,630	176,815,650	43,252,170
Increase from E+C	**11%**	**3%**	**15%**	**14%**	**15%**

Source: Neel-Schaffer, 1999

6.11 Major Thoroughfare Plan Conclusion

Based on the analysis of the 2020 existing plus committed system and input from City officials and the public, a Major Thoroughfare Plan (Figure 6.4) has been prepared which identifies the existing transportation system and recommended future improvements. The Major Thoroughfare Plan identifies major and minor arterials and collector routes. This Plan sets the framework for the City to pursue implementation of those projects deemed most necessary. Due to funding limitations, it is unlikely that all of the recommended projects will be implemented by the end of the study period, 2020. However, the Major Thoroughfare Plan will allow City officials to take steps to ensure Gallatin's transportation system will continue to support continued economic growth without sacrificing mobility or safety. Dedication by the City of Gallatin to carry forward projects in the Major Thoroughfare Plan will allow the City to provide transportation improvements that have consistent cross-sections, meet regional goals and provide for future economic growth.



Legend

- (2) Proposed Number of Lanes
- Major Arterial

No. of Lanes	2	4	5
Min. R.O.W.	60'	64'	84'

- Minor Arterial

No. of Lanes	2	3	4	5
Min. R.O.W.	60'	60'	64'	84'

- Major Collector

No. of Lanes	2	3
Min. R.O.W.	50'	60'

- Minor Collector

No. of Lanes	2
Min. R.O.W.	50'

- Local

No. of Lanes	2
Min. R.O.W.	50'

- 25 Primary State Route
- 174 Secondary State Route
- Railroad
- Streams
- City Limits

Figure No. 6.4 Major Thoroughfare Plan

Gallatin Major Thoroughfare Plan

NEEL-SCHAFFER, INC.
ENGINEERS • PLANNERS

NEEL-SCHAFFER, INC.
Engineers • Planners

Neel-Schaffer, Inc., 4205 Hillsboro Road, Suite 310, Nashville, TN (615) 383-8420